SCARAB AND SEAL AMULET PRODUCTION IN THE EARLY EIGHTEENTH DYNASTY:

AN ANALYSIS OF THE MATERIALS, TECHNOLOGY, AND SURFACE CHARACTERISTICS TO DETERMINE SEAL AMULET WORKSHOPS

by

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ABSTRACT

Seal amulets, particularly those in the form of scarab beetles but also cowroids and scaraboids, were the most popular form of amulet in ancient Egypt. They have been comprehensively studied by experts (including Ward (1978), Tufnell (1984), Keel (1995), and Ben-Tor (2007)) who have focussed on the periods of the early second millennium BCE and/or the Levant. This study builds upon their decades of prior research on seal amulets to utilise and amend previous typologies in order to fill the chronological gap in comprehensive seal amulet studies beyond the first half of the second millennium BCE.

This study analyses the materials and technology, as well as surface characteristics of 876 seal amulets from seven sites dating to the early Eighteenth Dynasty in Egypt in order to identify 'typological' workshops (those based on shared characteristics) and 'material' workshops (archaeological evidence of production) of the seal amulets of the period. The organisation, output, and influences of these workshops are discussed, alongside how the seal amulet workshops of the early Eighteenth Dynasty reflect the socio-political and cultural landscape of the period. Comparisons are also drawn to the seal amulets of the Second Intermediate Period and late Eighteenth Dynasty, as well as those from the Levant.

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INTRODUCTION

Scarabs, cowroids, and scaraboids (which will henceforth be called 'seal amulets' as a collective term[1]) were a distinctly popular kind of ancient Egyptian amulet for thousands of years of pharaonic history (Andrews 1994: 50-59). Egyptian or Egyptianising (those mimicking Egyptian artefacts) seal amulets, notably scarabs, have been found throughout Egypt on nearly every site, as well as in the Levant, Near East, Nubia, and the Aegean (Andrews 1994: 50; Ben-Tor 1993: 8). After becoming popular in the First Intermediate Period, scarabs, that is small amulets that have their backs carved to resemble the *scarabaeus sacer* beetle (see below) and a flat base ('sealing plate') carved with designs or hieroglyphs, became the most popular amulet in pharaonic times. During the Middle Kingdom, these amulets were used extensively as part of a centralised administrative sealing system. However, the majority of seal amulets were never used as seals and instead were created as amulets for protecting both the living and the dead (Ben-Tor 2007: 3).

Although not as common as scarabs, cowroids and scaraboids were also popular seal amulets from the Middle Kingdom onwards (Keel 1995: 78-80). Rather than their backs carved to resemble beetles, cowroids were made to depict cowrie shells but bore the same flat, decorated sealing plate as scarabs. Scaraboids are seal amulets of a similar size as scarabs and cowroids and also bear sealing plates; however, they were made in a wide variety of types with some carved to resemble animals, objects, or schematic designs.

The aim of the present study is to examine seal amulets from the early Eighteenth Dynasty in order to analyse their production techniques (Chapter 4) and patterns in surface features (Chapter 5). The purpose of this examination is to identify production areas and the workshops of specific seal amulet types (Chapter 6). Once these workshops have been hypothesised, a variety of research questions can be addressed. First and foremost are questions regarding production, including ascertaining how early Eighteenth Dynasty seal amulet workshops functioned (Chapter 6). Furthermore, the stylistic influences of these scarabs, cowroids, and scaraboids will be discussed. For example, is there a noticeable Canaanite influence in the motifs as had been seen in the Second Intermediate Period scarabs (Mlinar 2004; Ben-Tor 2007) or did the Eighteenth Dynasty workshops deliberately shun the styles of the preceding period and create distinctly Egyptian seal amulets once again? It appears that it is rather a combination of both, including keeping Second Intermediate Period scarabs as heirlooms, as discussed in Chapter 7.

[1] See Chapter 2.2.2 for a discussion on why this collective term has been used.

The primary research questions tackled in the present study are:

1. How were the seal amulets of the early Eighteenth Dynasty made?
2. What type of seal amulets were created and used in the early Eighteenth Dynasty?
3. Where was each type of seal amulet produced?
4. How did a seal amulet workshop function and what did it look like?
5. Is there continuity in surface characteristics and base designs for the seal amulets of the Second Intermediate Period into the early Eighteenth Dynasty?

While the preceding queries regarding the production of seal amulets are the focus of the present study, their conclusions will allow a deeper discussion of the religious and socio-political scene in the early Eighteenth Dynasty as reflected by the seal amulets (see Chapter 7). In tackling these questions, it is shown that the study of even the small and sometimes seemingly inconsequential artefacts from ancient Egypt can address major questions regarding the history of ancient Egypt and its complexities.

The primary research questions were tackled by studying the materials and manufacture, surface features, and archaeological contexts of 876 seal amulets from nine tombs at five different cemeteries throughout Egypt, as well as two major votive deposits (figs 1.1 and 1.2). In order to create a reliable typology for the early Eighteenth Dynasty, only large seal amulet groups (of eight or more seal amulets) from clear and secure archaeological contexts were included in this study (cf. Ben-Tor 2007: 1). To address questions regarding the continuity from the Second Intermediate Period, a number of late Second Intermediate Period seal amulets were included in the study, namely from Tombs CC 37, CC 41, and Gebel el-Zeit, which were used from the end of the Seventeenth Dynasty into the early Eighteenth Dynasty.

The seal amulets were then analysed both quantitatively and qualitatively (see the methodology in Chapter 2.2.2 and the results in Chapters 4 and 5) to discover patterns in the material use and surface characteristics both regionally and chronologically within the early Eighteenth Dynasty. The clustering of these patterns on a site can then suggest a seal amulet workshop in operation in the vicinity that was creating a specific type of seal amulet. This study found that a variety of seal amulet workshops were in operation during the early Eighteenth Dynasty in Egypt. Both ‘typological’ workshops (those identified as producing a specific type of seal amulet with a narrowly defined set of surface features, see Chapter 6.3.1) and ‘material’ workshops (the discovery of archaeological evidence of seal amulet manufacture at a site, see Chapter 6.3.2) are discussed in relation to the evidence in the dataset and other evidence for seal amulet production throughout Egypt and the Levant (Chapter 6).

Figure 1.1: Map of Egypt and surrounding regions depicting the sites mentioned in text (see figs 3.1 and 3.11 for close-ups of the Theban and Fayum areas).

Figure 1.2: Map of the Nile Valley in Egypt depicting the seven sites used in the study corpus (see figs 3.1 and 3.11 for close-ups of the Theban and Fayum areas).

1.1 The Social and Cultural Significance of Scarab Beetles

The most popularly produced and owned seal amulet was the scarab; the scarab beetle's importance can be seen to date back to the Predynastic Period with Petrie (1917a: 2) finding dried beetles deposited in burials. The *scarabaeus sacer*, known more commonly as the dung beetle, is a commonly seen insect in Egypt to this day. In ancient times, the beetle was imbued with magical and mythical properties, as were many other creatures and natural phenomena witnessed by the Egyptians (Houlihan 1996).

Figure 1.3: Dung beetle specimen demonstrating how it rolls a ball of dung with its hind legs (image courtesy of Leicester Museums).

The magical importance given to the beetle was due to its feeding and reproductive habits.[2] The Egyptians observed the beetles rolling a ball of dung across the sand (fig. 1.3) and then burying it for later consumption, which they likened to the movement of the sun across the sky each day, which then disappears at night. Furthermore, the female beetles lay their eggs in a pear-shaped ball of sheep dung underground, which the beetle larvae then eventually eat their way out of, emerging from the sand as fully-formed adult beetles (Ward 1978: 95-97).[3] The observation of this fascinating behaviour led to the creation of the creator god Khepri, a deity also linked to the sun and rebirth (Hornung and Staehelin 1976: 13-14).

The magical importance given to the scarab beetle underlies the eventual creation and popularity of the scarab amulet or seal, whose amuletic function was to protect the wearer in life (through the votive properties of the material and designs carved upon it) and assist them in death (to regenerate in the afterlife as the ancient Egyptians observed the beetles doing). Coupled with an amuletic design or the name of a member of the royal family carved upon the base (see Chapter 5.2 for further

[2] See Chapter 5.2.2.2 for a discussion on another animal that evoked magical themes for the ancient Egyptians.
[3] For a detailed discussion on the behaviour and biology of dung beetles, see Ward (1978: 92-97, figs 42-52).

discussion), these small objects acted as powerful amulets for the ancient Egyptians (Hornung and Staehelin 1976: 13; Ward 1978: 46).

1.2 Seal Amulet Usage

Scarabs probably evolved from earlier 'button' seals that were predominantly found in the burials of women and children from around 2500 BCE (Ward 1994a: 186). The amulets carved in the shape of a scarab beetle then became the most popular amulet from the Middle Kingdom onwards (Ben-Tor 1993: 8). During the late Middle Kingdom, scarabs were used for a widespread central administrative system. The flat, engraved base of the amulets was impressed upon mud or clay to seal filled and stopped vessels, doorways of magazines, and other storage containers. The impressions, or 'sealings', that these amulets left behind have been found in the thousands at numerous sites throughout Egypt and further afield (Keel 1995: 268-274; James 1997: 34; Bietak 2004). Although it is often assumed that the corresponding amulet to the seal was a scarab, it could actually be any seal amulet with an oval sealing plate.

Figure 1.4: Old Kingdom faience button seal (MFA 12.1255, © MFA Boston).

One instance where there is concrete proof of a scarab linked to the seal impression is from the Lower Nubian site of Amara West. In a storeroom of a New Kingdom period house, a seal impression was discovered that had an exact base design match to a scarab found in a nearby grave (Spencer 2014: 54, fig. 19; Binder 2017: 598). The presence of this scarab in the grave of a young woman alludes to the far more common usage of scarabs. In fact, after the Middle Kingdom, scarabs were only sparingly used as seals and were more commonly used as amulets for protection in life and death (Ben-Tor 2007: 3). Furthermore, the base designs on many seal amulets were carved too shallowly to leave a distinguishable impression. Amulets, such as scarabs and other seal amulets, have been found in burials as rings, and on bracelets and necklaces on persons of most levels of ancient Egyptian society (Ward 1902: 6; Keel 1995: 105-115; James 1997: 33).

The term 'seal amulets' has been used in the present study as an umbrella term for all amulets with a 'sealing plate', that is a flat, often oval, surface upon which a base design was usually carved.

Even though most seal amulets were never used as seals and were simply protective amulets, the term represents a clearly defined set of artefacts.

1.3 Historical and Chronological Significance of Seal Amulets

Seal amulets can be found on nearly every site in ancient Egypt. Thus, a number of scholars have used these amulets to discuss social, political, and religious phenomena in Egypt and its surrounding regions. Ryholt (1997) and Ben-Tor (2007) have both studied the Second Intermediate Period scarabs in order to discuss the politics and cultural interactions of the period, although with differing results. Thus, this study of early Eighteenth Dynasty seal amulets addresses similar questions regarding the religion, politics, and cultural entanglements of the period (Chapter 7).

After the expulsion of the foreign Hyksos rulers, the north and south of Egypt was reunited under the pharaoh Ahmose who ushered in the Eighteenth Dynasty, the first dynasty of the New Kingdom (see Table 1.1 below for a summary of the chronology of Egypt). This occurred around 1550 BCE. The absolute dates of much of pharaonic Egypt are widely contested (as discussed in Bietak and Höflmayer 2007) and thus the present study will focus upon the relative dating, i.e. the dynasties and the reigns within them. The absolute dates used in the present study (to situate the reader within the dynasty) were taken from Shaw's *Oxford History of Ancient Egypt* (2000: 479-483).

Period	Dynasties within Period	Approximate Date Range[4]
Early Dynastic	0-2	c. 3000-2686 BCE
Old Kingdom	3-8	c. 2686-2160 BCE
First Intermediate Period	9-11	c. 2160-2055 BCE
Middle Kingdom	11-14	c. 2055-1650 BCE
Second Intermediate Period	15-17	c. 1650-1550 BCE
New Kingdom	18-20 **18 Dynasty** ***Early 18 Dynasty***	c. 1550-1069 BCE **c. 1550-1295 BCE** ***c. 1550-1458 BCE***
Third Intermediate Period	21-25	c. 1069-664 BCE
Late Period	26-30	c. 664-332 BCE

Table 1.1: Relative and Absolute chronologies of Egypt following Shaw (2000: 480-482).

[4] The absolute dates given in the table and throughout the present study were taken from Shaw (2000: 479-483).

To date, comprehensive scarab research ends with the end of the Second Intermediate Period. Authors (for example, Régen and Soukiassian 2008: 133) publishing on scarabs from later periods have remarked that the existing scarab typologies do not fit these later produced scarabs (Chapter 2.1.2). The present study not only worked to fill the chronological gap in scarab research by amending the pre-existing scarab typologies to fit the early Eighteenth Dynasty (see Appendices B and C), but to also demonstrate the value in continuing scarab typological studies beyond the first half of the second millennium BCE.

Studying the production of seal amulets is integral to fully understand the objects. As noted by Stevens and Eccleston (2007: 159), 'in any attempt to read the material output of a society – ancient or modern – as an expression of that society, it is crucial to look beyond the conditions of its ultimate use to those of its creation, and craft production in all its aspects.' Therefore, an in-depth analysis of the evidence of seal amulet manufacture, both in the design choices (Chapter 5) and the material production (Chapter 4), was a fundamental part of the present study.

Finally, the analysis and discussion of the seal amulet production and workshop evidence for the early Eighteenth Dynasty (Chapter 6) also allowed the study to address larger questions about ancient Egypt. The production of seal amulets can answer broader questions regarding the social, political, and religious landscape of early Eighteenth Dynasty Egypt (Chapter 7).

In conclusion, this study will utilise past research on seal amulet typologies, their production, and workshops to analyse 876 seal amulets from the early Eighteenth Dynasty. The patterns in the materials' usage and surface characteristics of these seal amulets will be used to propose seal amulet workshops for the period and ultimately address how seal amulets of the period were made, why certain designs and motifs were popular, how the workshops may have functioned, and finally, how the seal amulet production fit into the wider setting of the early Eighteenth Dynasty.

Chapter Two:
RESEARCH CONTEXT AND METHODOLOGY

This study of early Eighteenth Dynasty seal amulet production builds upon over a century of past research into archaeological typologies and classification, scarab and seal amulet typologies and manufacture, and more general studies of workshops and production in ancient Egypt. As this study utilises and revises already established typologies of seal amulets (see Chapters 2.2.1 and 5), an understanding of the past discussions regarding the usage of typologies in archaeological studies is necessary. The typologies used specifically in scarab and other seal amulet research form the basis of the present study. Furthermore, the past research into the archaeological evidence of workshops and seal amulet production is integral to understand in order to shape the present study of seal amulet workshops.

This literature allowed an adaption of past seal amulet typologies in order to analyse the early Eighteenth Dynasty seal amulets in the dataset (see Appendices B and C). The surface features, dimensions, materials, and base designs of each seal amulet were recorded and analysed to discover patterns of characteristics that are indicative of seal amulet workshops in the early Eighteenth Dynasty. The methodology of the study will be discussed below (Chapter 2.2.2).

2.1 Research Context

The present study builds upon over seven decades of research into seal amulet typologies and material and production studies in both ancient Egypt and the surrounding regions. Past discussions and critiques of archaeological typologies will be addressed alongside the specific typologies created for scarabs and other seal amulets. The ever-evolving research of the materials and production of ancient Egyptian objects will be outlined where relevant to the materials in the present seal amulet dataset and the varying approaches to studying ancient workshops will be critiqued.

2.1.1 History and Theory of Archaeological Typologies

Since the late nineteenth century, typologies of artefacts have been in use in archaeology. For example, in Egyptology W.M.F. Petrie created a typology and relative dating sequence for Predynastic pottery from the cemeteries of Diospolis Parva; the terminology and dating sequence is still widely used by ceramicists and Egyptologists over a century later (Petrie 1901; Savage 2001; Takamiya 2004: 36; Stevenson 2011: 67). Typologies utilised in scarab studies have also been widely applied and have been beneficial in illuminating lesser known periods of Egyptian history (Ryholt 1997; Ben-Tor 2007: 2; see Chapter 2.1.2 below). However, the use of typologies in archaeology has

been widely criticized. Many archaeologists have more recently noted that some early typologies are far too subjective and often contain assumptions regarding ancient intelligence (Bisson 2000; see discussions in Gnecco and Langebaek 2014). For example, François Bordes' Middle Paleolithic tool typology (1961) created much debate, particularly with Binford (1973), as he deemed Bordes' work to be overly descriptive and subjective (Bisson 2000: 41-42).

Further issues with archaeological classifications and typologies can be found in regard to the consistency in which they are used. Whittaker, Caulkins, and Kamp (1998: 130) noted that 'neither those interested in the theory of typology nor those attempting the practical classification of artifacts have made any attempts to deal with the problems of typological consistency'. Inconsistencies are an issue in scarab typological studies as well; Tufnell and Ward's typology (see Chapter 2.1.2) is imperfect due to the occasionally ambiguous nature of the various head and profile types. Whittaker *et al*. (1998: 130) noted that typologies are partially arbitrary, in contrast to the 1960s and 1970s belief among some archaeologists that their typologies could be completely objective (Hill and Evans 1972; Dunnell 1986). Archaeologists must remain critical and non-complacent when using a well-engrained typology for it to remain effective and current. Hill and Evans (1972: 231) listed a number of issues regarding typologies that the archaeologist should address while creating and using them, including the motives behind the typology creation, if there is a continuum of variability among artefacts or if there are truly 'non-random clusters of attributes', and how standardised the typologies are. The present study's motives include ascertaining seal amulet production methods and workshops.[5] The study also notes that there is an amount of variability in seal amulet features, however, Chapter Five demonstrates the evidence for clear types in the dataset. Furthermore, typologies can still be effective in answering interpretative questions and communicating results when using consistent, well-defined types, which in the present study's case is that pioneered by Tufnell and Ward (see Chapter 2.2.1) and maintaining a 'commitment to honest methodology and accurate interpretation' (Whittaker *et al*. 1998: 161).

The volume *Against Typological Tyranny in Archaeology* (Gnecco and Langebaek 2014) sought to challenge how archaeological typologies have been utilised in the history of the field. They noted that typologies are unavoidable in archaeology and that they are often required to provide objects with meaning. Senatore and Zarankin (2014) addressed the motives behind typologies in archaeology noting that many early archaeological typologies were created merely to provide a sense of order for an array of objects, rather than using the typologies in an attempt to answer research questions.

Chronology and dating are often at the basis of many typological studies. Lucas (2005) skillfully dissected the theories behind time, chronology, and dating in archaeology and noted that dating and chronologies have been improperly used in archaeology. Using 'dated' artefacts to provide a temporal

[5] See Chapter 1 for the list of motives (i.e. research questions) behind the usage and amendment of scarab and seal amulet typologies in this study.

scope for a context or entire site can prove to be incorrect. For example, an entire Late Bronze Age stratum at Beth Shean was erroneously dated based upon the dating of scarabs and other seal amulets that were then shown to be from an earlier time period than the stratum (Weinstein 2000: 74-75). The practice of keeping scarabs as 'heirlooms' can also confuse the dating of any context that they may be found within (Ben-Tor 1997: 165; Bietak and Höflmayer 2007: 16).

As presented, typologies are not always used constructively in the studies of a specific type of object, particularly in terms of dating, nor are they an absolute science (Whittaker *et al*. 1998); however, it will be demonstrated that certain typological studies have been beneficial to the study of Egyptian and Egyptianising scarabs and other seal amulets in the second millennium BCE.

2.1.2 Scarab and Seal Amulet Typological Studies

While still a niche subject, scarabs have been studied and published in dedicated volumes for well over a century. In the earliest scholarship, the majority of scarab studies mainly consisted of catalogues of scarabs with photographs or drawings of their bases and occasionally a short generalised introduction for interested collectors of antiquities. The inscriptions on the bases of the scarabs were largely considered to be the only aspect of importance, and specifically only those with royal names (Hall 1913; Petrie 1917a). But already at the turn of the twentieth century, John Ward (1902) included images of the backs of seal amulets alongside the bases, and even noted that they may have chronological implications. While only showing images of the bases of scarabs, Newberry (1906) still drew attention to the various anatomical aspects of the scarab seal amulets, demonstrating noteworthy awareness. Petrie's 1917 *Scarabs and Cylinders with Names*, and his 1925 publication *Buttons and Design Scarabs* have been considered as some of the first comprehensive examinations of scarabs (Ward 1978: 1; Richards 2001: 8). In these volumes, Petrie included a study of back and leg types; however, the majority of the scarabs came from unprovenanced museum collections and the provenance of the others was ignored; therefore, any conclusions regarding chronology can no longer be accepted (Petrie 1917a: 6-7; 1925: 16-17). In fact, Petrie (1925: 29) noted that many scarabs had been discovered on excavations but that they were 'not of any individual importance, and would needlessly dilate and break up a series of types', and that they were 'therefore better kept as local series'.

Hornung and Staehelin's 1976 catalogue of Friedrich Wilhelm's private collection provides a thorough survey of various seal amulet types. Although the volume's dataset is largely unprovenanced, it does provide a list of Eighteenth Dynasty king names and their various forms, which appear on scarabs. This illustrated catalogue was beneficial in cross-referencing royal name scarabs and finding parallels of scaraboids that are found in this study dataset. Jaeger (1982) focused nearly solely on the seal amulets of Thutmose III; however, he also addressed those from the early

Eighteenth Dynasty leading up to his reign and fortunately examined a wide range of seal amulets, including a variety of different types of scaraboids (see Chapter 1 for definition).

The regional and chronological provenance of scarabs has been studied in detail by scholars such as Ward (1978; Ward and Dever 1994), Tufnell (1984), Keel (1995; 1997; 2010a; 2010b; 2013), Ben-Tor (1997; 2007), and Mlinar (2004). These studies have focused on scarabs of the first half of the second millennium BCE and have particularly used scarabs excavated in the Levant. This period and region were largely chosen due to many of the *tell* sites in Palestine having been more carefully excavated with clearer stratigraphy than the corresponding sites in Egypt, which were often excavated at an earlier date (Richards 2001: 162; Ben-Tor 2007). Furthermore, these scarabs, once convincingly dated, have successfully altered the previously held chronology of the Middle Bronze Age and helped illuminate the obscure Second Intermediate Period (Ryholt 1997; Ben-Tor 2007: 2).

The aforementioned scarab studies by Keel (1995; 1997; 2010a; 2010b; 2013), Ben-Tor (1997; 2007), and Mlinar (2004) used a typology developed by Ward and Tufnell over the span of more than a decade (Ward 1978; Tufnell 1984; Ward and Dever 1994). Previous studies of scarabs focused primarily on the base designs, and particularly royal names, in order to date them (Hornung and Staehelin 1976; Ryholt 1997; Richards 2001: 8). The use of royal names inscribed on scarab bases to date the amulet is especially problematic because there is concrete evidence that series of scarabs were created with the names of pharaohs who had died many years, if not centuries, before manufacture (Jaeger 1982: 158-187, 265-267; Ben-Tor 2004b: 25). Ward and Tufnell's typology utilised the base designs alongside the head, back, and leg types in order to reconstruct the style of Middle Kingdom and First and Second Intermediate Period scarabs of Egypt and the Levant. They realised the necessity of using large scarab groups from clear archaeological contexts to compose their study corpus, as individual scarabs were occasionally kept as heirlooms in ancient times and can confuse the dating of contexts (Tufnell 1984: xv; Ben-Tor 2007: 1).

While remaining a very useful typology, many of the conclusions put forth by Ward and Tufnell have come under criticism in the last two decades of Levantine scarab scholarship (Ben-Tor 2007: 1-2). Primarily, the chronological foundation of the typology (i.e. their now defunct dating of the Montet Jar scarabs (in Tufnell and Ward 1966)) has skewed the dating of their entire Middle Bronze Age typology, which is no longer widely accepted (Schulman 1989: 621-622; Bietak 1991; Bietak and Höflmayer 2007; Ben-Tor 1997; 2007; Richards 2001: 7-8; Bourriau 2010). Furthermore, Ward maintained that the differences in scarab features between sites in the Levant were merely due to scarabs coming from different sites in Egypt rather than the presence of any local manufacture (Ward and Dever 1994: 120). Additionally, the Ward and Tufnell system can occasionally be confusing and

difficult to use.[6] However, unlike the scarab typology put forward by O'Connor (1985), which largely ignored archaeological contexts and focused mainly on the backs and bases, Ward and Tufnell's typology is considered pioneering in the field of scarab scholarship as it is more firmly grounded on well-dated excavated assemblages and is still widely used (Ben-Tor 2007: 3).

Keel's extensive four-volume catalogue (1997; 2010a; 2010b; 2013) of the seal amulets excavated in the Levant also contains a detailed introductory volume (1995) describing the different types of amulets, including scaraboids and cowroids. This catalogue was the first comprehensive catalogue of the scarabs in the Levant since Alan Rowe's 1936 volume, which has been acknowledged to be full of inaccuracies (Weinstein 2000: 75). Keel also utilised Tufnell's typology for the base design classes, as well as the head, back, and profile types in order to discuss the dating and production provenance of the scarabs. The introductory volume (1995) also included an invaluable study of the materials and manufacture of scarabs in the Levant and Egypt (see Chapter 2.1.3 below). Rather than relying solely on the publications of known excavated scarabs from the sites, Keel made a considerable effort to locate, view, and photograph as many of the scarabs as possible. The photographs as well as drawings of the back, profile, and base of the scarabs are useful for any comparative study of scarabs. There has been some debate about Keel's dates for the Middle Kingdom chronology (Kitchen 1996: 9; Weinstein 2000: 75-76); however, these dates are not relevant as they predate the present study.

Keel's four-volume catalogue of the Levantine scarabs is useful for reference; however, unsurprisingly with a catalogue of this magnitude, there are some inconsistencies and omissions in the recorded entries when compared to the physical objects. For example, 'blank' scarabs, or scarabs without base designs, are completely omitted from the catalogue. Furthermore, this catalogue provides little analysis of the scarabs. His analyses of the Palestinian scarabs are seen more in articles focusing on the Jasper Group (Keel 1989b: 213-242), Omega Group (Keel 1989a: 39-87), and Palestinian deities (Keel 2002).

Levantine scarab studies by Ben-Tor (1997; 2007), as well as Keel (1995: 29-35) and Schroer (Keel *et al*. 1989), worked to dispel the notion that most or all of the second millennium BCE scarabs found in the Levant were produced in Egypt, a belief that was held by both Ward and Tufnell (Ward and Dever 1994: 119), as well as O'Connor (1974: 32-33).

Ben-Tor has written extensively on Egyptian and Levantine scarabs, focusing on the first half of the second millennium BCE and, alongside Keel, is a foremost authority on scarabs. Ben-Tor's 1997 study focused on early Middle Bronze Age scarabs and noted a number of misrendered hieroglyphs, Canaanite motifs, and crude Egyptian imitations on scarabs excavated in the Levant. She determined

[6] Some recent studies of seal amulets (Régen and Soukiassian 2008; Lohwasser 2014a) have intentionally avoided using the Ward and Tufnell system due to it being cumbersome and complicated. Régen and Soukiassian (2008: 133) noted that no previously created scarab typologies chronologically fit their assemblage.

that these designs were all evidence pointing toward the Levantine manufacture of these unusual scarabs. Her doctoral dissertation, which was published as a monograph in 2007, also used Tufnell's typology but made the distinction of studying the scarabs excavated in the Levant separately from those excavated in Egypt. She divided her study corpus into four categories by context: Late Middle Kingdom Egypt and Nubia, Second Intermediate Period Egypt and Nubia, Early Palestinian, and Late Palestinian.[7] She maintained that this is a crucial division in order 'to establish a reliable scarab typology of the first half of the second millennium BCE', which is possible due to studies of ceramic assemblages from sites of this period (Weinstein 1992; 1996; Bietak 1991; Ben-Tor 2007: 2). She also used the low chronology proposed by Bietak (1991)[8] rather than the controversial dates proposed by Ward and Tufnell.

Her typological study aimed to answer crucial questions about the nature of Egyptian-Palestinian relations in the first half of the second millennium BCE, including the reasoning behind the initial exportation of scarabs into Palestine, the subsequent distribution of scarabs in both Egypt and Palestine, cultural influences on the scarab designs, as well as determining the commencement of the Second Intermediate Period in corresponding Middle Bronze Age Palestinian phases (Ben-Tor 2007: 2). She achieved her research aims by anchoring the scarab developments and movements in the historical as well as archaeological record (Boschloos 2008). Her study not only impacted the Middle Bronze Age chronology of Palestine but also inferred intriguing aspects of Second Intermediate Period scarab practices, such as the general lack of administrative sealing uses in the period (Ben-Tor 2007: 3). This highly regarded study demonstrated the historical and chronological breakthroughs that can be determined through scarab typological analyses (Boschloos 2008; Maier 2011).

Richards (2001) also conducted a stylistic typological analysis on scarabs of the Middle Bronze Age by focusing on the *anra* type scarab (Design Class 3C1, see Chapter 5.2.2.5). These scarabs are diverse, but all contain a variation of a formula containing the hieroglyphs *ʿ*, *n*, and *r* and mainly date to the Second Intermediate Period. She usefully continued using the typology put forth by Ward and Tufnell in 'an effort to establish some continuity in scarab terminology' (Richards 2001: 10), as well as created her own typology for the different versions of the *anra* formula in both epigraphy and arrangement of the signs on the scarab base (2001: 35-36). Her study focused primarily on the base design of the scarabs, using both the intact seal amulets as well as seal impressions in an attempt to understand the meaning behind the enigmatic *anra* formula. Like Ben-Tor, she also aimed to determine the production point of the scarabs as well as illuminate the interactions between Egypt and the Levant during the Second Intermediate Period (Richards 2001: viii). She noted that ideally

[7] 'Early Palestinian' and 'Late Palestinian' are contemporary to their Egyptian counterparts of the late Middle Kingdom (c. 1850-1700 BCE) and Second Intermediate Period (c. 1700-1550 BCE), respectively.
[8] There have been many studies addressing low versus high chronologies, for a summation, see Bietak and Höflmayer 2007.

the study would have used only excavated scarabs; however, the sample size would have been far too small for a conclusive study and she was obliged to use scarabs without contexts as well (Richards 2001: 35). The manuscript is a useful description and catalogue of the *anra* scarab; however, its downfall is its rather conjectural conclusions regarding the meaning and significance of the *anra* formula. Richards posited that the formula referred to the Ugaritic god *El* and that the scarabs were manufactured in Egypt in the Fifteenth Dynasty in order to be exported primarily for a Levantine audience as over seventy percent of the scarabs were found in Palestine (2001: 158-160, 162). Richards (2001: 162) suggested that this disparity in number is largely due to the archaeological bias in excavation in the Levant versus Egypt; however, it appears to be far more likely that the majority of *anra* scarabs were in fact manufactured in the Levant and distributed locally amongst sites, which would account for the disproportionate number of scarabs in Palestine as well as the earlier arrival of the *anra* formula in the Levant (Ward 1987: 524-526; Ben-Tor 1997: 171, 175).

Mlinar's study (2004) took well-stratified scarabs, as well as scarabs with no secure contexts, to determine whether or not Tell el-Dab'a, located in the eastern Nile Delta, was producing their own scarabs in the Second Intermediate Period. Her innovative study effectively proved that it was possible to use both stylistic typological differences in scarabs alongside archaeological context to determine not only production region, which was successfully done by Keel (1995) and Ben-Tor (1997) in the past, but also to pinpoint a specific production site. In doing so, Mlinar was able to more accurately comment on trade between not only different cultures but even specific sites; the study discusses the interaction and trade between the sites of Tell el-Dab'a and Tell el-'Ajjul in the southern Levant. Her conclusions indicated a sequence of scarab importation with the presence of traditionally Middle Kingdom Egyptian scarabs in the lower strata, then an early Tell el-Dab'a manufactured scarab group, followed by Palestinian imports, and concluding with two later Tell el-Dab'a produced groups (Mlinar 2004: 134). She illustrated her conclusions with charts and drawings demonstrating the decline in scarab workshops over time. These conclusions illuminate the general fall in Egyptian made scarabs at the end of the Middle Kingdom, and the rise of the workshops in the Hyksos eastern Delta capital of Tell el-Dab'a and those in the Levant.

The aforementioned scarab typological studies demonstrate that with the application and amendment of previously defined typologies, innovative and compelling research can be conducted demonstrating the historical, geographical, and chronological significance of scarabs. While most of these studies focused on the scarabs of the Middle Kingdom and Second Intermediate Period, as well as the corresponding Middle Bronze Age in the Levant, continuation in this field into the early Eighteenth Dynasty is plausible and profitable for the study of scarabs, as well as their historical implications.

2.1.3 Seal Amulet Production and Materials

In order to fully comprehend the production regions and sites of early Eighteenth Dynasty seal amulets, it is necessary to understand the various materials and production methods available for creating these amulets in Egypt during this period. When attempting to locate specific seal amulet workshops, it is necessary to know whether or not the site showed evidence of such industry or the infrastructure required to support it. While it may not be possible to definitively recreate the exact manufacturing process of each seal amulet in this study, understanding how each seal amulet, or rather each type of seal amulet, was made is crucial when studying the value and significance of the amulets. Fortunately, many comprehensive specialist studies have been conducted on the technology and raw materials of ancient Egyptian artefacts, as well as the production of scarabs and seal amulets.

The general point of departure is the pioneering work of Lucas and Harris (1962) and the later Nicholson and Shaw (2000) edited volume. Lucas and Harris' study is the most recently revised edition of chemist Lucas' initial 1926 study of the subject. A four-decade gap in a comprehensive work on the subject was remedied by Nicholson and Shaw's 700-page contribution which contains chapters by leading experts on the different materials and technologies of ancient Egypt. These volumes are invaluable to any study of the production methods and materials of Egyptian artefacts. The thorough studies are divided into chapters based upon raw materials and their associated technology. Particularly valuable to a study of scarab materials and production is the inclusion of the locations of raw materials that were known and used in ancient times. Both volumes also include countless references to further studies and site reports with supplementary information. Unfortunately, while these volumes are a very useful basis for technological studies, both are now out of date in the field of scientific and technological analyses.[9] Furthermore, steatite, the predominant material for seal amulet manufacture, but less commonly used for other ancient Egyptian objects, received only brief mention (Nicholson and Shaw 2000: 58-59); the production of scarabs is merely included under the umbrella of bead-making, although fortunately an entire chapter is devoted to beads in the earlier work (Lucas and Harris 1962: 41-47, 155-156).

To fill the void regarding studies of steatite, an easily carved soapstone (which converts to a hard substance when fired (Tite and Bimson 1989: 87; Ben-Tor 1993: 41; Nicholson 2012: 13; see Chapter 4.2)), more recent scientific analyses on materials and production methods by Tite, Bimson, and Shortland must be considered. Tite and Bimson (1989) published one of the first scientific studies specifically focused on glazed steatite; a material largely used for bead and scarab production.[10] This

[9] A new volume by Zakrzewski *et al*. (2016) addresses the changes and advancements in the scientific study of ancient Egypt. While it does not comprehensively look at each material type in the manner of Lucas and Harris (1962) or Nicholson and Shaw (2000), it beneficially discusses the theoretical aspects behind the study of production and technology of Egypt.

[10] Connor *et al*. (2015) have conducted recent work on the use of steatite in producing private statuary, in which they discovered that many low-quality statuettes from the Middle Kingdom and Second Intermediate Period were made of steatite.

now dated study was supplemented by a full chapter that was written with contributions by expert Bouquillon, in Tite and Shortland's 2008 edited volume regarding faience and other early vitreous materials. This article and chapter focused on the glazing processes and the different materials used, rather than the procurement of the steatite or shaping of the objects. In fact, similar to the previous studies, little to no information is given regarding scarabs in particular, even though scarab production was one of the primary uses of the soft stone.

Faience was the second most common material for scarab manufacture in the Eighteenth Dynasty after steatite (see Table 4.1 and fig 4.1). Kaczmarczyk and Hedges' (1983) pioneering volume outlined the uses and production of faience spanning from the Predynastic Period into the Roman times, which they ascertained through scientific analyses of objects made out of the paste composite. Concurrently, Tite, Freestone, and Bimson (1983) published an article based upon the methods of the production of faience in ancient Egypt. Their study employed a scanning electron microscope to analyse cross-sections of faience artefacts in order to determine firing and glazing methods. The Nicholson and Shaw (2000) volume dedicated an entire chapter to the ancient Egyptian material complete with scientific analyses (Nicholson and Peltenburg 2000) and in more recent years, Nicholson (2007; 2012; 2013) has continued his study of faience using the archaeological evidence on sites to discuss faience production and workshops.

Ben-Tor (1993: 40-42) and Andrews (1994: 50, 100-106) both outlined the materials that were predominately used for scarab making and also remarked upon the significance and meaning of each substance to the ancient Egyptians. However, these books only provide a cursory look at the requirements for seal amulet manufacture and consulting the aforementioned studies of materials is necessitated for a more analytical understanding of seal amulet production.

As is the case in the Lucas and Harris (1962) and the Nicholson and Shaw (2000) volumes, studies and descriptions of bead-making do assist in illuminating production methods for scarabs and seal amulets as they are similar in shape, size, and both contain longitudinal piercings for stringing. Xia Nai (1946 PhD published in 2014) provided a thorough study of beads and their production from the University College London collection, while Stocks (1989) provided valuable insight into the drilling of hard stone beads through his archaeological experiments. Stocks determined that the drilling process would have been the most difficult step in bead making and that the objects often broke if the stone was weak or was improperly drilled (Stocks 1989: 530). Gwinnet and Gorelick's (1993) published results of over a decade of lab work had similar research goals to Stocks' study; they aimed to examine drilling practices, how they changed over time, and if they differed between regions and cultures (1993: 125). This was done by microscopically analysing the tool marks found within the drill hole, as well as the shape of the hole (1993: 126). Perhaps more valuable to the present study are the findings from the Lisht bead workshop. A group of unfinished quartz beads were discovered,

and they elucidated the order and methods in which hard stone beads were produced (Gwinnet and Gorelick 1993: 130).

Unlike the studies which focus on bead-making in general, Keel's (1995) introductory volume to his catalogue of Levantine scarabs provided valuable and detailed information on the specific production of seal amulets ranging in date from the beginning of the second millennium BCE into the Iron Age. This volume is invaluable for any study of scarabs and seal amulets as he covered the raw materials, production, and engraving techniques. Keel also included the incidences of 'blank', or more aptly labeled unfinished, scarabs, which are the most conclusive evidence for scarab manufacture on a site (Keel 1995: 29-38).

The technological studies of industry in ancient Egypt allow for a comprehensive study of seal amulet manufacture in the early Eighteenth Dynasty. Understanding the complexity involved in producing these small and popular objects will assist this study in understanding the role and significance of seal amulet workshops in this period.

2.1.4 Workshop Research in Ancient Egypt

While the study of the specific technology and materials required to create scarabs and seal amulets has been covered in a variety of publications (see above, Chapter 2.1.3), more general literature has delved into production in ancient Egypt and what constitutes a 'workshop' in the ancient world.

In order to understand how artefact production, craftspeople, and workshops fit into society, a general understanding of the ancient Egyptian economy is necessary. Many studies on this topic have discussed the ancient economy's general structure, predominantly whether it was a redistributive economy or was based more on market activities. Janssen (1975: 137-139) used ethnographic comparisons to argue that the ancient Egyptian economy was a 'peasant economy' in that it was primarily redistributive, and believed that the ancient Egyptians were not concerned with making a profit.[11] In contrast, Helck (1960-1969; 1975), while agreeing that the ancient Egyptian economy was primarily redistributive, also noted that private individuals increasingly took part in marketplace activities 'wrench[ing] themselves free from the all-embracing redistributive state' (Haring 2009: 10) from the First Intermediate Period onwards. In the last two decades, more modern views about the ancient Egyptian economy have come to the forefront, primarily from Warburton (1997) and Kemp (2006). Warburton (1997: 336) stated that the Egyptian economic centres were the royal court and powerful families; however, that throughout Egyptian history, craftspeople and traders operated in both state and private activities. Kemp (2006: 302-355) believed that all economies are a compromise

[11] Janssen's theories about the ancient Egyptian economy were largely inspired by the economic historian Karl Polanyi (Polanyi *et al*. 1957), whose dated and substantivist ideas on ancient economies were widely used as inspiration for many historians from the 1950s to 1990s (as discussed in Haring 2009: 10-11 and Cooney 2007: 9-10).

between the centralised power of the state and the private marketplace, and that individual demand is what generally dictates prices.[12]

The distinction between whether the economy was redistributive, market-based, or a combination of the two is significant in attempting to understand how craft production fit into daily life in ancient Egypt. Cooney (2006; 2007) agreed with the premise that the economy of ancient Egypt involved marketplace activities and further discussed how the production of funerary goods fit into this model. She used the wealth of textual data found on ostraca from the Ramesside town of Deir el-Medina to demonstrate that the official, state paid craftspeople supplemented their state rations with privately commissioned funerary goods for residents of Deir el-Medina. In order to come to this conclusion, Cooney used workshop records, receipts, letters, official records, and legal texts that all mentioned a private sector funerary arts market and determined that not only were the craftspeople creating additional income via private commissions, but that they also frequently worked with other official state craftspeople in an informal workshop structure in order to finish these goods.[13]

Di Paolo (2013: 111-112) discussed the concepts of 'workshops' in the ancient world. While his research focused primarily on the ancient Near East, it is applicable to all ancient workshop studies. He noted that there are many different concepts of workshops, including the simplistic definition of a room, building, or area on an archaeological site in which the production takes place (a 'material workshop') and workshops which are distinguished based on a specific technique[14] or skill.

Many studies have been conducted on 'typological' workshops, workshops that are determined by the shared characteristics of artefacts, rather than physical, excavated workshops (for example, those from Amarna, discussed below). While this research is too great to fully outline here, a few notable studies[15] were reviewed in creating the present study, which aims to suggest 'typological' workshops of seal amulets. Freed's 1984 PhD thesis, which was published as a short article in 1996, studied Middle Kingdom stelae in order to 'identify the work of individual sculptors or workshops' (1996: 297). Freed defined a stela workshops as 'three or more stelae sharing distinctive aspects of composition or style which collectively set them apart from others' (1996: 298). This definition has been applied by other academics studying stelae, such as Ilin-Tomich (2011) who identified a stela workshop based upon five unprovenanced stelae, which he located possibly at Saqqara. However,

[12] For a brief but informative overview of the ancient Egyptian economy and its past research, see Haring 2009.
[13] For information regarding prices and wages in ancient Egypt, including those of craftspeople, see Černý's (1954) influential work, which primarily used evidence from Deir el-Medina. He also noted (1954: 903) that very few concrete conclusions regarding the ancient Egyptian economy can be made prior to the New Kingdom due to a lack of evidence, i.e. workshop records, receipts, and similar documentation. Cooney (2006: 45-48, 50-54) also discussed the prices of various funerary goods on the private market.
[14] For evidence of a workshop based primarily on production technique, see Singleton's (2003) study of a Theban coffin workshop.
[15] 'Typological' workshop studies involving scarabs were separately addressed above in Chapter 2.1.2.

Ilin-Tomich's later study focused on Middle Kingdom stelae with documented provenance in order to determine production (Ilin-Tomich 2017).

Similarly, Collon (1975; 1986; 2001) looked in-depth at cylinder seals, particularly their impressions from the site of Alalakh in modern Turkey. In this study, she used the presence of about thirty cylinder seals of similar composition, material, and motif to propose a Middle Bronze Age workshop in Byblos, called the 'Green Jasper Workshop'. Collon's proposed workshop has been widely discussed since. While some scholars agree with Collon's workshop and its location at Byblos[16], many others disagree with the location of the workshop and also the supposed homogeneity of Collon's 'Green Jasper Workshop' in general.[17] One of the primary takeaways from Collon's study and the subsequent discussion of the 'Green Jasper Workshop' is that the basing of a workshop location without archaeological evidence of the artefact at the suggested site can be very problematic. The present study maintains that both typological homogeneity, as well as archaeological evidence of the type (i.e. a number of the proposed artefact on the site of the suggested workshop) is required in order to accurately suggest a workshop location.

The city of Amarna was the capital of the Amarna Period in the late Eighteenth Dynasty. Although this site dates later than the present study, it still deserves special mention in a discussion of workshops in ancient Egypt, especially considering the lack of evidence for 'material' seal amulet workshops in the early Eighteenth Dynasty. Over the course of a century the site has been methodically excavated and recorded and has revealed a vast amount of information about craftspeople, artefact manufacture, and workshops. Shaw, who has worked at the site, discussed the variety of craftwork and workshops found at the site in Chapter Nine of his book *Ancient Egyptian Technology and Innovation* (2012: 127-150). This chapter explored where workshops and craftspeople were physically located within settlements, using the plentiful data from Amarna as his case study. He demonstrated that a wide variety of industries occurred at the short-lived site and in many instances, multiple types of craftwork occurred within the same household workshop. Stevens and Eccleston (2007) came to the same conclusion and further discussed the wide variety of types of industry taking place at Amarna.

Boyce (1995) published a comprehensive catalogue of the entirety of the small finds from a specific area of Amarna, in this case a large house. In the lengthy article, Boyce listed all the finds according to their findspot and then went into greater detail regarding the faience artefacts because Boyce

[16] For example, Kopetzky and Bietak (2016), who added a seal impression from Tell el-Dab'a to Collon's Byblos workshop, and Teissier (1996), who divided the workshop into two chronological periods and added more seals.
[17] Such as Eder (1995), who believed the workshop was located further south in Palestine and Keel (1989), who instead thought the cylinder seals were created in Megiddo. Otto (2000: 143-144) suggested a separate workshop comprised of some of Collon's 'Green Jasper Workshop' seals but believed the workshop was based in Qatna and that Byblos was not a major manufacturer of cylinder seals in the Middle Bronze Age. Boschloos (2015) noted that not a single cylinder seal matching Collon's workshop has been excavated in Byblos and instead proposed that there were multiple workshops located in the northern and central Levant creating the cylinder seals that make up Collon's 'Green Jasper Workshop'.

deemed it ‘a rare opportunity to study faience in context from one of the smaller manufacturing areas located within the city’ (Boyce 1995: 44). For an in-depth study of the glass and faience manufacture at Amarna, Nicholson (2007) published an excavation memoir of the glass and glazed material industry in area O45.1, north of the Main City. Nicholson’s study also explained how the ancient Egyptians manufactured glass and faience and he used experimental archaeology to demonstrate the methods. More recently, Kemp and Stevens (2010a; 2010b) published the excavations of Grid 12 and the House of Ranefer in the Main City South of Amarna. They also uncovered evidence of vitreous material production including some evidence of faience scarab manufacture (Kemp and Stevens 2010a: 528-606; 2010b: 481-484).

Hodgkinson (2015; 2016) used scientific methods, such as portable XRF (see Chapter 2.2.2 for more information) to study the raw materials used in the production of vitreous materials, primarily glass, at Amarna using a bead workshop in the Main City as her primary evidence. Carrying on from her research at Amarna, as well as Gurob, Hodgkinson (2018) published an in-depth study of the production of high-status goods (including vitreous materials) in three cities of New Kingdom Egypt. Her study utilised spatial analysis to cover the organisation of workshops of three late Eighteenth Dynasty sites, Gurob, Amarna, and Malkata.

Other evidence of workshops and industry are briefly covered in Seyfried’s edited volume on Amarna (2012), including a summary of craftsmanship on the site focusing on ceramics (Rose 2012), overviews on the faience and glass production at Amarna (Schlick-Nolte 2012a; 2012b, respectively), the leatherworking industry (Veldmeijer and Ikram 2012) and metalworking (Hertel 2012). Arguably the most famous workshop of Amarna, that of the sculptor Thutmosis (of the famed Nefertiti bust), was outlined by Seyfried herself (2012) within the volume.

The literature discussed above allowed a thorough examination of the dataset of seal amulets from the early Eighteenth Dynasty, both in terms of their material and stylistic features, as detailed in the following section.

2.2 Methodology of the Seal Amulet Study

The present study utilised both a qualitative and quantitative approach of analysing the seal amulets of the early Eighteenth Dynasty through both description of designs and characteristics and the frequency of the occurrence of features. The methodology outlined below (Chapter 2.2.2) details the visual examination, analysis of the use of materials and surface characteristics, and, ultimately, the positing of workshops for seal amulets of this period.

The typological basis for this study was amended from the Tufnell system (Chapter 2.2.1), which did pose some challenges (as outlined in Chapter 2.1.2 and below). However, the utilisation of this

well-known seal amulet typology allowed for a comparison with other seal amulet studies and the continued use of the results from this study in future research.

2.2.1 The Tufnell System – Benefits, Challenges, and Use

Tufnell's (1984) scarab classification system, which was created with the aid of Ward (1978) and then later updated by Ward and Dever (1994) is the preferred system of recording and classifying scarabs, particularly for the first half of the second millennium BCE. The major benefit of using Tufnell's scarab classification system is its wide use in the field of scarab study. The current leading experts in scarab studies predominantly utilise Tufnell's system within their publications, which creates an effective system for reader comprehension and for reference between scholars (Keel 1995; 1997; 2009; 2010; 2012; Richards 2001; Mlinar 2004; Eggler and Keel 2006; Ben-Tor 2007; Boschloos 2012a).[18]

However, the Tufnell system, despite its popularity, is not without faults and required some minor amendments for the present study. In some circumstances, scarab features do not fit seamlessly into her classifications and ascertaining differences between certain types can be problematic. For example, leg types e6 and d14 are very similar (see chart in Tufnell 1984: 37 and Appendix B) and can cause confusion during analysis (Mlinar 2004: 134-138). Furthermore, many of the base design classes had to be adjusted for use. This is not unexpected considering the present study is chronologically later than the system used by Tufnell, Ben-Tor (2007), Mlinar (2004), and others (including Keel 1995; 1997; 2010a; 2010b; 2013; Richards 2001). In particular, some additions were required for base design motifs not, or seldom, seen before the early Eighteenth Dynasty (see Appendix C).

The amended version of the Tufnell System (see Appendices B and C) has not only allowed for consistency while recording the seal amulet surface characteristics in the present study, but will also hopefully allow further use and amendments in future seal amulet studies. The Tufnell system largely focuses on scarabs, therefore selective typologies for the cowroids and scaraboids have been borrowed from other studies, namely that of Keel (1995) and Jaeger (1982).[19]

[18] On the other hand, the recent publication of Lohwasser's (2014a) volume on scarabs of the first millennium BCE abstained from using the Tufnell system. This is likely due to the chronological gap of roughly 500 years between the scarabs in Tufnell's study and the earliest scarabs of Lohwasser's volume. The present study aims to close a portion of that gap.

[19] Where a typology has been borrowed from sources other than Tufnell (1984) will be clearly indicated (see Appendix B, 4 for Keel's cowroid typology).

2.2.2. Recording and Analysis

A total of 876 scarabs, scaraboids, and cowroids are used in the present study (see Chapter 3 for a full discussion of the seal amulet assemblage selection for this study). Scaraboids are defined as seal amulets with inscribed bases, similar to scarabs, but lacking the characteristic scarab beetle features of a 'true' scarab. Therefore, scaraboid bodies can be shaped as other traditional amulets, such as the *wedjat* eye (fig. 5.23), other animals, with the frog shape particularly popular in the Eighteenth Dynasty (fig. 5.47) (Keel 1995: 69), or simply as a smooth rounded back (fig. 5.32). Cowrie shell-shaped scaraboids (see Appendix B, 4), more commonly known as cowroids, have been treated as their own category due to their popularity in relation to other scaraboid types (58% of all non-scarabs in the dataset were cowroids), also considering they have received their own surface characteristic typology (Keel 1995: 78; see below). Scaraboids and cowroids have been included in the present study due to their similar manufacturing requirements (see Chapter 4), as well as having 'sealing plates' bearing the same repertoire of base designs (see Chapter 5.2) as 'true' scarabs (those with scarab beetle features). Furthermore, the cowroids and scaraboids possess the same amuletic purpose as the 'true' scarabs and were often found in similar contexts. Therefore, it is hypothesised that the scaraboids and cowroids would have been produced in the same workshops as scarabs based on the similar processes of production (see Chapter 4) and frequently shared stylistic features (see Chapter 5).[20]

The scarabs, scaraboids, and cowroids will more generally be called 'seal amulets' throughout the study as an umbrella term for the three types of amulets. This term can be contentious due to the fact that many scarabs, scaraboids, and cowroids were likely never used as seals. Ben-Tor (2007) noted that at the end of the Middle Kingdom, the administrative sealing process discontinued, and that 'seal' amulets were used as amuletic jewellery rather than seals (see Chapter 1.2 for further discussion). Keel (1995) uses the term 'Stempelsiegel-Amulette', literally 'stamp seal amulets' in English, as a blanket term for scarabs, scaraboids, and cowroids, whereas other studies (for example, see Richards 2001: 38, 68; Lohwasser (ed.) 2014a; and others) use the word 'scarab' to not only specifically describe the beetle shaped amulets but also as a collective term for scarabs, scaraboids, and cowroids. While this may be terminology occasionally used in scarab scholarship, it is a problematic approach due to the confusion it may cause the reader as to whether the author is describing scarab beetle amulets or collectively scarabs, scaraboids, and cowroids. Therefore, while the term 'seal amulet' may not always be the most accurate terminology to describe the type of amulets that scarabs, scaraboids, and cowroids are, the present study holds that it is the best

[20] N.B. Cylinder seals have been excluded from the present study as these are predominantly Near Eastern made amulets and are rarely found in Eighteenth Dynasty Egypt. Furthermore, it has been acknowledged that cylinder seals generally have vastly different iconographic repertoires and thus were unlikely to have been made in the same workshops as scarabs and other seal amulets (Teissier 1996: 19-22; Collon 1986; Boschloos 2015: 302).

terminology at present as all three types of amulets bear flat, often inscribed 'sealing plates', even if they were not used for sealing practices.

While scarabs, scaraboids, and cowroids were used as administrative seals in some instances, the focus of the present study is on the physical seal amulets, rather than the seal impressions. The physical seal amulets are required for a detailed visual analysis of the body of the amulet (head, back, and legs) alongside the base design to fully hypothesise regional styles, and that information is absent in the seal impression.

The seal amulets in the present study were chosen due to their presence in large seal amulet assemblages with clear and relatively secure provenances in the early Eighteenth Dynasty (see Appendix A and Chapter 3.2 for further discussion regarding corpus selection). Ben-Tor (2007:1) noted the importance of using 'relatively large' groups of scarabs from clear, datable archaeological contexts as individual seal amulets can be outliers. Furthermore, the secure and clear chronological contexts are of importance for studying production location of seal amulets; as otherwise any conclusions made regarding the stylistic difference between regions could instead be stylistic differences from a much later seal amulet that was present from either tomb reuse or the burial plunderer.

Inevitably, it was necessary to omit some seal amulets due to their inaccessibility for study. The majority of the seal amulets in the study corpus come from early twentieth century excavations by European and North American archaeologists.[21] This is due to their accessibility, as many of these seal amulets have ended up in European and North American museum collections, which the author was able to visit[22] or gain access to high quality images of the objects from the museum's website.[23]

The four European based assemblages (Tomb of Maket at Lahun, Tomb 1723 at Sedment, and Tombs 26 and 27 at Gurob) were available to the author to examine and photograph in person. However, the author was unable to travel to the North American museums to examine the seal amulets from Thebes and Tomb 1728 at Sedment in person but was provided access to high resolution photographs. Furthermore, the Gebel el-Zeit seal amulets currently reside in the basement of the Egyptian Museum

[21] The only corpus of seal amulets that were studied which were not excavated circa one century ago and do not currently reside in a North American or European museum are those from Gebel el-Zeit, which were published in detail with photographs of the backs, bases, and sides by the archaeologists (Régen and Soukiassian 2008: 131-314). I am very grateful to Dr. Isabell Régen and Prof Georges Soukiassian for sharing their photographs with me.
[22] I am extremely grateful to Liam McNamara of the Ashmolean Museum, Dr. Helen Strudwick of the Fitzwilliam Museum, Dr. Luc Delvaux of the Brussels Royal Museum of Art and History, and Lizzie O'Neill of the Hunterian Museum who allowed me to visually examine and photograph the seal amulets from the Tomb of Maket at Lahun, Tomb 1723 at Sedment, and Tombs 26 and 27 at Gurob, respectively.
[23] The Theban seal amulets in the corpus were studied and catalogued using the high-quality images available on the Metropolitan Museum of Art's website (http://www.metmuseum.org/art/collection). Likewise, the seal amulets from Tomb 1728 at Sedment are available on the Penn Museum's website www.penn.museum/collections/search..

Cairo[24] and are thus difficult to access. The author again was provided access to high resolutions photographs of the seal amulets.[25]

While the use of high quality photographs (taken either by the present author or by the museum/excavator) were favoured, in some instances, the excavation report line-drawings were necessitated. For example, gold scarab **812** from the Tomb of Maket was not sent to the Ashmolean Museum with the rest of the seal amulet assemblage and was instead sold at auction in 1912 to a private anonymous buyer.[26] Instead of omitting this seal amulet made of precious metal and inscribed with the name of the lady Maket, the information given in the publications was used. Furthermore, when images of an aspect of a seal amulet (for example, a scarab's profile) were unavailable, these features were not recorded in the database and thus did not contribute to the relevant discussion. The discussions of these features (in Chapter 5.1) note the number of occurrences of unknown features (either due to a lack of photographs or damage to the seal amulet), which were fortunately few.

Determining the production methods and region, much less a specific workshop, in which a seal amulet was manufactured is a difficult process based solely upon the visible surface characteristics and archaeological data. In some instances, the material and production method can be speculated from a visual examination alone, for instance, where the faience glazing method is immediately apparent (see Chapter 4.2 and 4.3); however, for many of the seal amulets, a more destructive scientific analysis, such as electron microprobes and energy dispersive spectrometers (Tite *et al*. 1983: 18-19; Tite and Shortland 2008a: 20; Zakrzewski *et al*. 2016: 340), would be required to learn the exact composition of the faience or glaze, and even perhaps ascertain the provenance for the raw materials, including steatite. These types of studies generally require pulverizing a sample or creating a break, or 'thin-section', in the artefact to view the material composition (Hodgkinson 2016: 23). While this destructive process is popular in ceramic studies using small, and perhaps inconsequential potsherds, it would be far too damaging for such small and detailed artefacts as seal amulets. Furthermore, after completing this destructive scientific analysis, the results are sometimes inconclusive. Factors such as poor preservation and extensive weathering can lead to the degradation of the glaze and even make it difficult, if not impossible, to ascertain whether the artefact was even glazed (Tite and Shortland 2008a: 20).[27]

[24] According to Isabelle Régen (personal communication June 2019).
[25] These photographs are in grayscale; however, the excavators noted the Munsell colour in the publication (Régen and Soukiassian 2008), which was added to the catalogue (Appendix D).
[26] This information was supplied by the object card for a replica of the scarab (AN1890.762A) at the Ashmolean Museum.
[27] There is evidence that Canaanite made steatite scarabs in the Middle Bronze Age were fired without glazing; however, the lack of glaze on the majority of the Tell el-'Ajjul manufactured scarabs could simply be due to poor preservation/weathering (Tite and Shortland 2008a, 20-21; Nicholson 2012: 13; Boonstra 2014: 22).

Recent studies of artefacts, including ceramic and glass objects, have proven that portable and Hand-Held XRF are useful, non-invasive, and relatively affordable[28] tools for determining chemical composition, and even production techniques in some instances. HH-XRF is a fairly new development based on old technology. Where XRF was expensive, difficult to operate, and had to be used in a laboratory, HH-XRF is portable, light, relatively inexpensive, and can be brought to Egypt in order to conduct scientific analyses on artefacts in the field, as it is rarely possible to take artefacts out of Egypt (Zakrzewski *et al*. 2016: 226-227; Hodgkinson 2016).[29] pXRF is slightly larger and more expensive than HH-XRF but they produce virtually the same results (Zakrzewski *et al*. 2016: 227). Hodgkinson's (2016) pilot project on the use of pXRF in the study of vitreous materials excavated at Amarna demonstrated that the technology can be used to study the plant ash used in the production of glass and has the potential to determine the artefact's provenance. However, she also noted that pXRF is unable to detect natron[30] or magnesia and is merely a detailed surface analysis in which the results have low accuracy and precision rates. Therefore, in order to fully understand the composition of faience, a fresh break in the artefact would be required and the equipment is often unable to accurately read the composition of the thin glaze of the steatite objects. Furthermore, interpreting the data generated by the machine can be incredibly difficult (Zakrzewski *et al*. 2016: 227). At present, the use of pXRF or HH-XRF to analyse the components of the faience seal amulets and the glaze on steatite seal amulets is not deemed of the highest priority in this study, which focuses primarily on stylistic features to determine production; however, scientific analysis of the seal amulets could be beneficial in the future.[31]

Therefore, since scientific studies of seal amulets require costly equipment, are potentially destructive and sometimes inconclusive, the present study will not only theorise production regions and/or sites of Eighteenth Dynasty seal amulets using visual examination but will also aim to further the theoretical discussion regarding provenance and production, not only in scarab studies, but in the study of artefacts in general.[32]

The present study required a detailed visual analysis of the surface characteristics of each scarab, scaraboid, and cowroid. When possible, the seal amulets were examined in person with the naked eye, as well as with slight magnification, and were photographed; however, in some instances, high resolution photographs which showed the back, side, and base were used in lieu of an in-person

[28] Hodgkinson (2016: 23) noted that portable XRF is significantly more affordable than other laboratory equipment used to determine chemical composition.
[29] In very rare circumstances, it is possible to gain permission to bring organic samples, such as charcoal, outside of Egypt for detailed scientific analyses. The archaeologist is required to prove that the study is vital and cannot be conducted in laboratories within Egypt. However, it is still rare for this permission to be granted (Zakrzewski *et al.* 2016: 235, fn. 1).
[30] However, Tite, Shortland, and Bouquillon (2008: 27) noted that plant ash was favoured over natron from the Middle Kingdom onward for use in glazed steatite.
[31] For a more detailed discussion of the pros and cons of using HH-XRF and pXRF on Egyptian artefacts, see Hodgkinson 2016 and Zakrzewski *et al*. 2016: 226-228.
[32] See Chapter 2.1.1 for further discussion of typologies in archaeological studies.

examination. Each seal amulet was recorded separately in a database along with an original identification number that was created specifically for this study for ease of reference and uniformity (see Appendix D); these unique identification numbers will be shown in bold throughout the present study. As only seal amulets with secure contexts were chosen for this study, the archaeological provenance was noted along with the excavator's interpretation of the date of production or deposition, where present. A detailed discussion of the archaeological provenance of each seal amulet assemblage can be found in Chapter 3.2. The material(s) and colour of the seal amulet was recorded as integral information for the analysis of the manufacturing methods for the seal amulets (see Chapter 4).

The dimensions of the seal amulet were also recorded as it has been proven that the size of a scarab can allude, to a degree, to the production zone and period.[33] Ben-Tor (2007: 23) and Mlinar (2004: 107) noted that the early Middle Kingdom scarabs were usually much smaller than those of later periods and that Canaanite made scarabs in the Second Intermediate Period were generally flatter in profile than their Egyptian made counterparts. For scarab and cowroid rings, the measurements were attempted to be representative of the size of the scarab or cowroid itself, and not of the ring mount. However, due to the metal ring mounts being wrapped around the profile of the seal amulets, as well as often creating a thicker base (see Chapter 4.4 and fig. 5.42), the measurements can be less accurate for seal amulet rings. In some instances, when photographs and publication data were utilised, no measurement could be obtained.

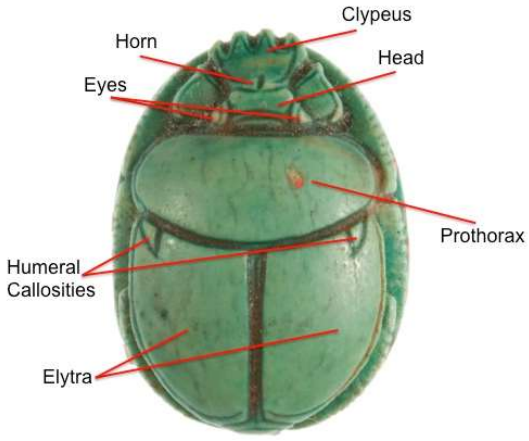


Figure 2.1: Image of Scarab **098** from the *Djeser-djeseru* foundation deposits indicating the anatomy of a scarab amulet (MMA 27.3.244, CC0 1.0).

The head, back, and leg types were recorded following Tufnell's classification system (1984: 31-37, see Appendix B) with minor adjustments to suit the later chronological period (Chapter 5.1). Further details regarding the body were noted, such as whether the clypeus was frilled or notched, or how many horns, if any, are depicted. The presence or absence of humeral callosities (fig 2.1) was also recorded, as these typological features first became popular in the Eighteenth Dynasty (Ward 1994:

[33] The shape of a cowroid can also be used as a chronological indicator. See Chapter 5.1.2 for details.

189).[34] It has been proven that the presence of these distinct head, back, and leg characteristics in varying combinations can be chronologically and regionally distinct and are thus integral to the study of scarab production (Keel 1995; Mlinar 2004; Ben-Tor 2010). These features can be seen in Appendix B and will be discussed in detail in Chapter 5. Significant combinations of these characteristics suggesting workshops will be addressed in Chapter 6.

Scaraboids and cowroids do not possess the same head, back, and leg characteristics of typical scarabs classified by Tufnell, and thus had to be recorded differently. The design, or lack thereof, on the back of the scaraboid was described[35]; however, Keel's cowroid classification system (1995: 78-81) was used when recording the backs and sides of the cowrie-shaped amulets. His four types of cowroids are as follows:

> I. Cowroid with a completely smooth back
> II. Cowroid in which the base and back are clearly separated by a circumferential groove or a shoulder
> III. Cowroid with a snare or more often a notched line along the edge of the back
> IV. Cowroid with a decorated back
> (Keel 1995: 78, translated by author)[36]

Tufnell's system of base design classes (Tufnell 1984: 115-150) was also recorded for each scarab alongside a description of the imagery and hieroglyphs present on each base. Additionally, the base design classes were also not developed to extend beyond the Second Intermediate Period and therefore, amendments to Tufnell's classes were made. The additions and amendments are clearly noted in Appendix C.

The chronological dates supplied by the excavators and/or the museums were entered. Generally, only relative dates, such as the pharaonic reign or 'early Eighteenth Dynasty', were posited. Therefore, for consistency, the absolute dates inputted into the database and used throughout the present study are taken from Shaw's *Oxford History of Ancient Egypt* (2000: 479-483) in order to situate the seal amulet within the Eighteenth Dynasty (see Chapter 1.3 for a brief discussion of absolute chronology).

The materials that were used to produce the seal amulets in the corpus were analysed in Chapter Four. The manufacturing process for each material present in the dataset was described, in regard to the raw material procurement, shaping (carving, moulding, or casting), and finishing (such as glazing or adding a metal mount). This summary then informed later discussions of the evidence for seal amulet

[34] The V-shaped nicks on scarab backs, also known as humeral callosities by entomologists, are prominent features on the insects but were not carved onto the amulets until the Eighteenth Dynasty. The earliest substantiated instance of humeral callosities is from a scarab inscribed with the name of Auserre (MMA 15.171), demonstrating that this feature was likely first introduced in the late Fifteenth Dynasty but did not gain popularity until the beginning of the Eighteenth Dynasty (Tufnell 1984: 36, 106).
[35] In a few indicated instances, pre-existing scaraboid typologies by Jaeger (1982), Stoof (1992) and Keel (1995) were used (Chapter 5.1.3 and 5.1.4).
[36] For images of each cowroid back type, see Appendix B, 4.

production in the archaeological record, and the makeup of seal amulet workshops in the early Eighteenth Dynasty (Chapter 6).

The surface characteristics from each seal amulet was then compared to the others in the dataset to look for patterns in material, size, body features, and base designs. A quantitative approach was taken by comparing the frequency of the occurrence of each feature at each site to determine regional and chronological distinctive characteristics, and particularly the patterns of them. The results of this quantitative study of the features of the 876 seal amulets can be seen in Chapter 5, where each feature and its popularity (or lack thereof), both regionally and chronologically, is discussed in detail. This information was then used to posit workshops. For example, the Tomb of Neferkhawet in el-Khokha, Thebes held a series of distinct, faience scarabs of the same size bearing the same features (Chapter 6.2.1.2). This pattern of characteristics was observed earliest and in the highest quantity at the el-Khokha tomb, which suggests that the workshop was based either near to the cemetery or near to the tomb owner's residence. The occurrence of three other scarabs in the dataset bearing the same characteristics then demonstrates the distribution of objects created in this workshop.

Finally, the results of the study of seal amulet manufacture and workshops in the early Eighteenth Dynasty were compared against the religious, political, and social landscape of Egypt and its surrounding regions to discuss the potential motives behind the use and disuse of the features and materials of seal amulets during this period (Chapter 7).

In conclusion, a wide array of past literature is essential when conducting a study of early Eighteenth Dynasty seal amulets and reconstructing production. First and foremost, it is essential to understand the theoretical challenges and critiques facing archaeological typologies in order to attempt to create and build upon an existing typology that is aware of prior inconsistencies and biases. Although typological studies are not without debate, they have been exceedingly effective for studies of the second millennium BCE seal amulets in Egypt and the Levant, which was particularly demonstrated by Ben-Tor (2007) and Mlinar (2004) who adapted and utilised the Tufnell and Ward typology (Ward 1987; Tufnell 1984; Ward and Dever 1994). A thorough knowledge of the past and current research regarding the materials and manufacture of seal amulets is required so that this study can add to the scholarship by proposing production sites for early Eighteenth Dynasty seal amulets.

The literature discussed above then informed the basis of the methodology of the present study. The visual examination of each seal amulet and the recording of its features follows the Tufnell (1984) typology and the utilisation of only securely contextualised seal amulet groups is in line with the importance given by both her and Ben-Tor (2007: 1). The quantitative study of the surface characteristics in the present study, which was similarly produced for different regions and periods by Tufnell and Ward, Ben-Tor, Boschloos, Richards, and more (see Chapter 2.1.2 for a detailed

discussion), allowed an analysis that discovered patterns in the features indicative of seal amulets workshops in the early Eighteenth Dynasty. The materials, surface features, and base designs present in the seal amulet corpus will be discussed in detail in the following chapters.

Chapter Three:
DATASET OF EARLY EIGHTEENTH DYNASTY SEAL AMULETS

Following the discussion of the past research and methodology that shaped the present study, this chapter focusses on the seal amulets within the study corpus and their archaeological contexts. The seal amulet assemblages from nine tombs (across five cemeteries) and two votive deposits were selected for the present study. Their selection was based upon the criteria outlined in the previous chapter, namely that they are from secure, datable contexts and are 'large' (in this instance, eight or more) groupings of seal amulets.

In this chapter, the excavation reports and object catalogues utilised are discussed to explain their merits and pitfalls. Then, a discussion of the geographical and chronological distribution of the dataset is outlined followed by a detailed discussion of the archaeological context and excavation history of each site included in the study. A brief summary of the seal amulets included in the corpus from each site is made, although they will be discussed in further detail in later chapters. The 876 seal amulets utilised in the present study will then be analysed for their material manufacture and surface characteristics in order to inform the later discussion of seal amulet workshops in the early Eighteenth Dynasty.

3.1 Catalogues and Reports for Study Corpus

Important secondary sources for building the dataset of scarabs, in order to construct an early Eighteenth Dynasty typology of scarab production, are original excavation reports and published catalogues of seal amulets. The ideal archaeological contexts for the study of regional and chronological characteristics of seal amulets are closed and intact burials as they have the most secure dating. Unfortunately, there are a limited number of intact burials of the early Eighteenth Dynasty (Smith 1992: 193).[37]

The primary point of departure for the study is the intact tombs of Thebes as it was the preeminent destination for burial in the Eighteenth Dynasty. Smith (1992) provided a thorough overview of the intact and mostly intact burials of the Seventeenth and Eighteenth Dynasties in Thebes. His article included a catalogue of the burial goods found within these tombs and devised meaningful interpretations regarding the required burial equipment, even though the majority of the burials from this period have been disturbed. He noted that there was bias in his sample due to the looting of nearly all the tombs of the highest officials (Smith 1992: 196). However, he stated that artefacts excavated from clear and well-documented contexts are still significant for interpretations. His analysis focused on object types, such as coffins, papyri, and objects of daily life. Smith (1992: 202-204) also

[37] Polz (1987) made a case for the beneficial use of objects from robbed, but well-excavated tombs; however, the present study focused on using only intact, or largely intact, burials.

documented the occurrence of jewellery within the tombs, separating them into three groups: heart scarabs, amulets, and miscellaneous. Unfortunately, Smith does not go into detail as to what pieces of jewellery would go under the 'amulet' category and what would be considered 'miscellaneous'; therefore, this portion of his study is too ambiguous for any detailed use in the present study. Nevertheless, Smith's review of the tombs of Thebes acted as a helpful starting point in determining which burials were potentially beneficial to include their seal amulets in the dataset for this study.

Excavation reports, such as those by Petrie (1891), Carter and Carnarvon (1912), Petrie and Brunton (1924a; 1924b), Brunton and Engelbach (1927), Lansing (1917), Hayes (1935), Winlock (1932a; 1932b;1942), and Régen and Soukiassian (2008) were relied upon to determine the archaeological context of the seal amulets found within the contexts. These publications cover burials in the cemeteries of Thebes (el-Khokha and Sheikh 'Abd el-Qurna), Lahun, Gurob, and Sedment, as well as the deposits at Gebel el-Zeit and Hatshepsut's mortuary temple at Deir el-Bahri.

Five Years' Explorations at Thebes is a full account of Howard Carter and Lord Carnarvon's work in Thebes from 1907-1912 (Carter and Carnarvon 1912). Most notable for this study was the description of Tomb No. 37 (CC 37), which contained the burials of forty-six persons and was relatively untouched by looting (Carter and Carnarvon 1912: 64-88; Smith 1992: 194). The lengthy list of objects frequently mentioned the seal amulets found in the tomb and where they were located, but little detail was provided unless they contained the name of royalty. As was common with publications of this era, the scarab and scaraboid plate (pl. LXVIII) only depicted the seal amulet bases. Furthermore, this publication can be cumbersome as the plate numbers are referred to in the text but do not appear in the actual plates; the illustrations, plans, and photographs are merely referenced by titles and can be difficult to find.

Lansing and Hayes (1937) published their results of excavations at Sheikh 'Abd el-Qurna, where a number of interments from the early to mid-Eighteenth Dynasty were discovered. The tomb of Hatnefer and Ramose is of importance to this study as a number of seal amulets were found within this tomb (Lansing and Hayes 1937: 20-29). Despite a few embellished and colloquial interpretations[38], this article provides extensive detail of the excavation process as well as the location and description of specific objects and was beneficial for use in tandem with the seal amulets, which reside at the Metropolitan Museum of Art in New York.

Furthermore, deposits such as the foundation deposits of Hatshepsut' mortuary temple (*Djeser-djeseru*) at Deir el-Bahri also provide secure closed contexts for seal amulet study (Roehrig 2005: 141-144). The foundation deposits at Deir el-Bahri contained hundreds of seal amulets and was the second largest assemblage in the study corpus. Most of the fourteen foundation deposits were

[38] Such as his assumptions about Hatnefer's wealth and position in comparison to her husband, Ramose (Lansing and Hayes 1937: 18).

excavated by the Egyptian Expedition of The Metropolitan Museum of Art and published by Winlock (1942), Hayes (1959), Weinstein (1973), and Ben-Tor (2015).

The Tomb of Maket at Lahun also provided a beneficial assemblage of seal amulets. The early Eighteenth Dynasty tomb was discovered by Petrie while he was excavating the largely Middle Kingdom settlement of Lahun. Petrie provided an archaeological overview of the tomb but only cursorily published the scarabs and seal amulets (Petrie 1891). Fortunately, Tufnell (1984; Hankey and Tufnell 1973) included the early Eighteenth Dynasty seal amulets (with details and drawings) as the limit of her study of early second millennium BCE scarabs and also discussed the assemblage in relation to the cultural interaction of the period.

The cemeteries of Sedment were poorly recorded by Petrie and Brunton (1924a; 1924b)[39] and many burials were included in the register but not discussed in the text of the excavation report. Fortunately, Franzmeier (2017) conducted an exhaustive survey of the excavation archive (notebooks and tomb cards) and the objects to produce a monograph on the New Kingdom cemeteries of the site, which included the studied burials, as well as the objects and their museum distributions.

The initial examination of Gurob by Petrie (1891) was also poorly documented (Thomas 1981: 2-4). However, in the 1920s, Brunton and Engelbach (1927) returned to the site to conduct a thorough survey of the cemeteries, in which they published plans, objects, and details of 313 excavated burials, many of which had been looted since Petrie's first excavation.

Finally, the excavation reports by the Institut Français d'Archéologie Orientale regarding the Red Sea mining site of Gebel el-Zeit have provided hundreds of securely provenanced seal amulets (Castel and Soukiassian 1985; 1989; Régen and Soukiassian 2008). The excavators discovered over four hundred seal amulets, largely dating to the early Eighteenth Dynasty, in and around a small sanctuary at the site and devoted nearly two hundred pages in the 2008 volume on the inscribed objects to cataloguing each of them (Pinch 1993: 75; Régen and Soukiassian 2008: 131-314). This catalogue provided photographs of the backs, profiles, and bases of each seal amulet, the measurements of each object, parallels from other sites, and more.[40]

The publications reviewed and mentioned above demonstrate the documentation of the burials and deposits (most of which were excavated in the first quarter of the twentieth century) that made up the dataset for the study of early Eighteenth Dynasty scarabs and seal amulets. This dataset will be discussed in more detail in the following section.

[39] A fact that even Petrie bemoaned in the publication (Petrie and Brunton 1924b: 25-26).
[40] This catalogue was especially beneficial as it was not possible to examine these seal amulets in person as they remain with the Ministry of Antiquities in Egypt.

3.2 Seal Amulets used in the Study

A total of 876 seal amulets from seven sites were used in the present study in an effort to create a representative sample of the seal amulets made and used during the early Eighteenth Dynasty (fig. 1.2). Only scarabs from clear contexts and relatively secure provenances were used to ascertain regional and chronological differences in the scarab corpus.[41] While there are thousands of known early Eighteenth Dynasty seal amulets in museums and collections throughout the world, the selection criteria that identified only securely provenanced tombs and deposits with seal amulets that are accessible for study greatly narrowed the dataset.

Site	**Contexts**	**Number of Seal Amulets**
Deir el-Bahri, Thebes	*Djeser-djeseru* foundation deposits	234
Sheikh ‘Abd el-Qurna, Thebes	Tomb of Hatnefer and Ramose and below the tomb of Senenmut	37
el-Khokha, Thebes	Tomb of Neferkhawet, Tombs CC 37 and CC 41	86
Lahun	Tomb of Maket	40
Sedment	Tombs 1723 and 1728	26
Gurob	Tombs 26 and 27	35
Gebel el-Zeit	Site 1 Sanctuary	418

Table 3.1: Distribution of corpus seal amulets by site and context.

Tombs, particularly those of the elite, were frequently plundered in antiquity[42], and have also been looted in recent centuries to sell artefacts to wealthy owners of private collections (Strudwick and Strudwick 1999: 168). The plundering of tombs in Thebes has been so great that Smith (1992: 193) even noted that many scholars deem the quantity of intact New Kingdom Theban tombs to be so negligible that no conclusions can be drawn about the funerary practices of the important city during

[41] A major flaw with using objects from insecure contexts can be seen in Collon’s identification of the Green Jasper cylinder seal workshop at Byblos based on style and material, as none of these seals have been excavated there (Boschloos 2015: 297-299).

[42] See the Abbot Papyrus (British Museum EA10221,1), also known as the Tomb Robbery Papyrus, for a primary source of the Twentieth Dynasty which recorded a case between two officials regarding the looting of elite and royal tombs in Thebes.

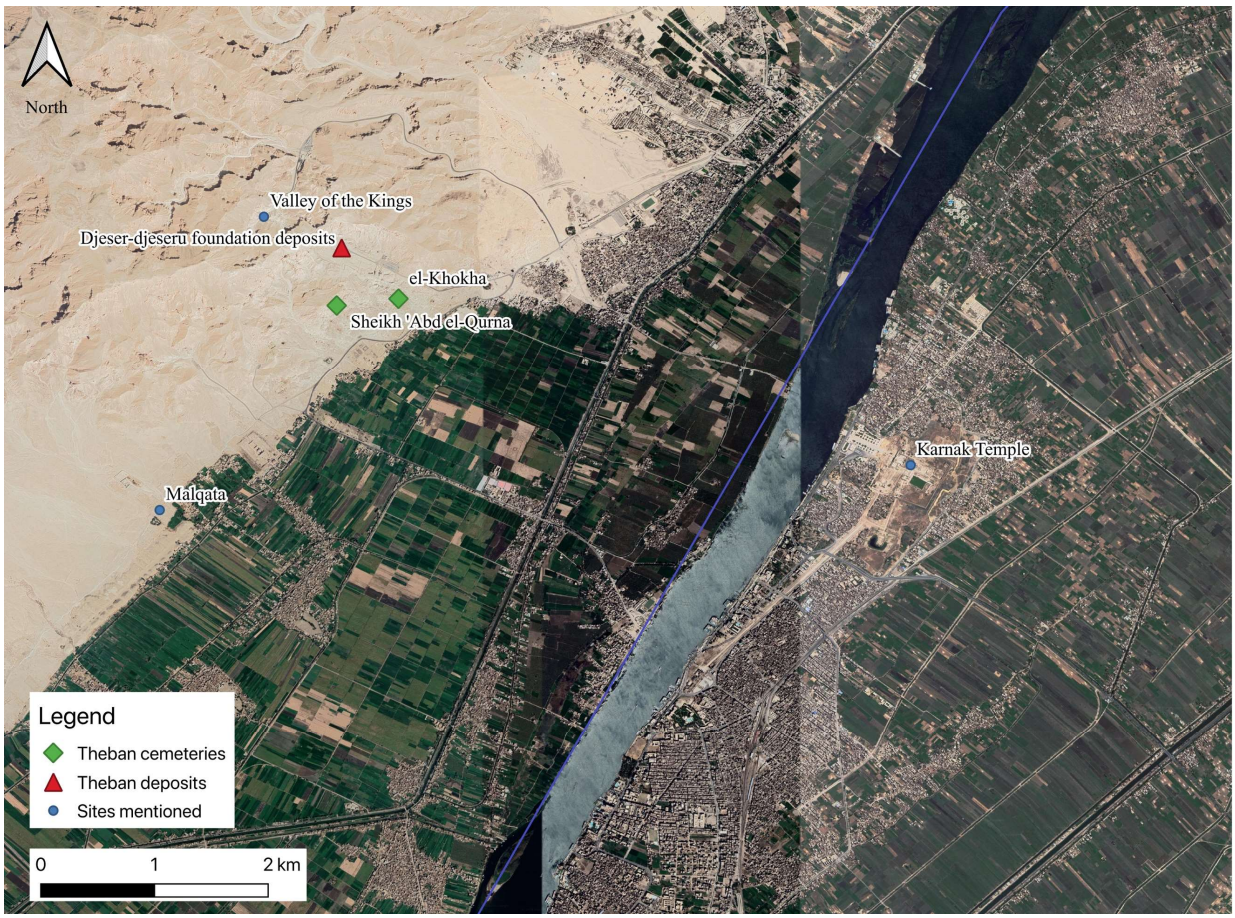


Figure 3.1: A satellite view of Thebes showing the locations of the Theban assemblages used in the dataset in reference to sites mentioned in study.

this period. Fortunately, more intact burials have survived from the Eighteenth Dynasty than of the rest of the New Kingdom (Smith 1992: 193; Strudwick and Strudwick 1999: 168).

Thebes, the capital of Egypt in the early Eighteenth Dynasty after the expulsion of the Hyksos by Theban king Ahmose, was an important city for thousands of years of Egyptian history (Strudwick and Strudwick 1999: 22-42). Along with the large temple complexes of Karnak and Luxor on the East Bank, Thebes is well known for its mortuary temples and cemeteries of the West Bank (fig. 3.1). The Theban West Bank cemeteries include the royal cemeteries of el-Tarif, Dra' Abu el-Naga', and most famously the Valley of the Kings, along with the non-royal cemeteries at el-Khokha, Sheikh 'Abd el-Qurna, and Asasif (Baines and Malek 2002: 103; Strudwick and Strudwick 1999; Kampp-Seyfried 2003: 2).

In total, 357 seal amulets examined in this study come from Theban contexts. With the exception of the 234 seal amulets from the foundation deposits at the Deir el-Bahri *Djeser-Djeseru* temple (see Chapter 3.2.1), the rest of the 123 Theban seal amulets came from unlooted tombs in the Sheikh 'Abd el-Qurna (see Chapter 3.2.2) and el-Khokha (see Chapter 3.2.3) cemeteries in the Theban region.

A total of 101 seal amulets come from cemeteries in the Fayum region at the sites of Lahun, Sedment, and Gurob. Forty seal amulets were discovered in the early Eighteenth Dynasty Tomb of Maket at

Lahun (see Chapter 3.2.4), twenty-six were found in two tombs at Sedment (see Chapter 3.2.5), and the final thirty-five were excavated in two tombs at Gurob (see Chapter 3.2.6).

The final 418 seal amulets come from Gebel el-Zeit (Chapter 3.2.7), a mining site on the Red Sea. These seal amulets include at least forty-nine examples dating to the Second Intermediate Period. This assemblage was included in the study as the site provides a valuable group of seal amulets dating from the Second Intermediate Period through to the end of the Eighteenth Dynasty, with the majority being from the early to mid-Eighteenth Dynasty (Pinch 1993: 75). The Second Intermediate Period amulets from Gebel el-Zeit can act as a bridge from the well-studied early second millennium BCE scarabs (Tufnell 1984; Ward and Dever 1994; Ben-Tor 2007) to the more sparsely studied seals amulets of the late second millennium BCE.[43] Furthermore, as the seal amulets from Gebel el-Zeit are from a less clear archaeological context (spanning from the late Second Intermediate Period to the end of the Eighteenth Dynasty) than those from the cemeteries or Deir el-Bahri foundation deposits, they are utilized primarily for comparison, as well as in discussions of the distribution of seal amulets in the Eighteenth Dynasty (see Chapter 6).

The 876 seal amulets studied were deemed to be a representative sample, both geographically and chronologically within the early Eighteenth Dynasty, of securely provenanced seal amulets. Some sites with known seal amulet assemblages from the period, such as Tell el-Dab'a and Abydos, were not included as they are currently being studied and published by those working on the sites.

Seal amulets from Nubia and the Levant were not included in the present dataset. While Ben-Tor (2007) has proven that the study of Levantine and Nubian seal amulets alongside the Egyptian examples can provide further well-contextualised data and can be used to answer questions pertaining to the movement and manufacture of seal amulets in areas outside of Egypt (see Chapter 2.1.2), the present study is focused on identifying areas of production within Egypt during the early Eighteenth Dynasty. However, examples from the Levant and Nubia will be included in discussions where pertinent. Further research could benefit from the inclusion of assemblages from outside of Egypt, as there is plentiful evidence of trade, interaction, and in some cases, colonisation between Egypt, Nubia, the Levant, the Near East, as well as the Aegean during the Eighteenth Dynasty (Sherratt and Sherratt 1991: 361-363; Morris 2005).[44]

In the following section, the sites whose seal amulets contributed to the present study will be examined. Each site (*Djeser-djeseru*, Sheikh 'Abd el-Qurna, el-Khokha, the Tomb of Maket at

[43] Eighteenth Dynasty seal amulets have appeared in many publications and have been studied by scarab experts, such as Ben-Tor (2015) and Boschloos (2012b); however, they have not been approached in the manner that the seal amulets of the Middle Kingdom and Second Intermediate Period, which have been comprehensively studied in order to create a typology (see Chapter 2.1.2).

[44] For instance, Petrie discovered Mycenaean and Cypriot imported wares in the Tomb of Maket at Lahun (see below, Chapter 3.2.4; Petrie 1891: 23; Hankey and Tufnell 1973: 109-110). Furthermore, Thutmose III's list of tribute inscribed on the walls of the Karnak Temple (see Chapter 4.1.1 for further discussion of the items listed) describes the spoils of his campaigns in the Levant (Sherratt and Sherratt 1991: 361).

Lahun, Sedment, Gurob, and Gebel el-Zeit) will have its historical importance and geographical location described, as well as its excavation history. A detailed description of the tombs or foundation deposits in which the seal amulets were discovered will be given in order for the reader to fully comprehend the secure chronological context of each seal amulet, as well as be able to visualise the deposition within the tombs. This is especially important for the tombs in which multiple internments occurred over the course of a few generations (for example, see the Tomb of Maket, Lahun, below). Some of the notable seal amulets will also be discussed, however they will be dealt with more thoroughly in Chapter 5.

3.2.1. *Djeser-Djeseru* Foundation Deposits, Thebes

3.2.1.1 Archaeological Context & Excavation History

Queen Hatshepsut, the only definite female sole ruler of the Eighteenth Dynasty, reinvigorated the tradition of monumental royal building; a tradition that was neglected since the collapse of the Middle Kingdom (Arnold 2005: 135). Her mortuary temple *Djeser-djeseru*, translated as 'holy of

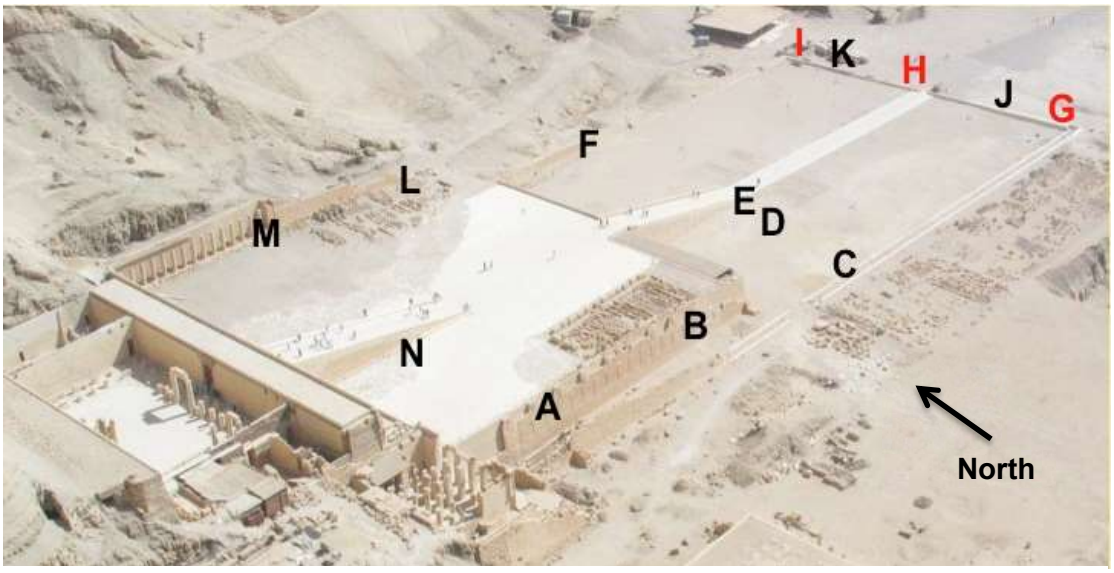


Figure 3.2: The foundation deposits of *Djeser-djeseru* according to Weinstein (1973: 152). Deposits L, M, and N were looted and are missing but were attested to by Winlock (1942: 153). Deposits G, H, and I along the eastern perimeter wall were excavated by Winlock in 1927 and contained the 234 scarabs used in the present study.

holies', is located at the base of the desert cliffs on the western bank of the Nile at Thebes in a location called Deir el-Bahri. This location was made significant by the establishment of Eleventh Dynasty King Mentuhotep II's mortuary temple, which lies on *Djeser-djeseru*'s southern side and acted as the architectural inspiration for Hatshepsut's chief architect Senenmut to create a colonnaded and terraced temple (Winlock 1932a: 322-323; Arnold 2005: 135-6). The temple, which was made almost completely of limestone, was dedicated to Hatshepsut's divine 'father', the god Amun, with shrines to other deities, including Anubis and Hathor (Hayes 1959: 83-84).

As was the tradition in the building of many important ancient Egyptian structures, foundation deposits were buried around the perimeter of the temple during a ritual called the *pḏ šs*, 'stretching of the cord', before the construction commenced above (Hayes 1959: 85; Weinstein 1973; Roehrig 2005: 141). A total of fourteen deposits were placed at *Djeser-djeseru* (fig. 3.2) and a further three at the Valley Temple; Roehrig observed that the placement of the main structure's deposits (fig. 3.3) likely denoted that the construction of the temple varied from the original plan (Roehrig 2005: 141;

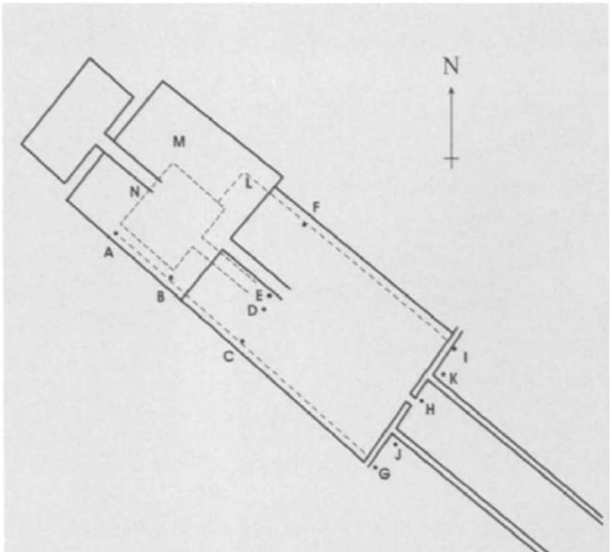


Figure 3.3: The positions of the foundation deposits demonstrating the original layout for the temple (broken line) versus the altered final plans (solid line) (Roehrig 2006: fig. 62).

Winlock 1942: 134). These deposits were placed in circular holes that were lined with bricks, if not cut directly into the bedrock to reinforce the structure of the pit as well as the foundations of the temple itself (Winlock 1942: 89).

The first deposit, deposit A[45], located at the western end of the southern wall, was discovered by Naville of the Egypt Exploration Society during his late nineteenth, early twentieth century excavation of the site (Naville 1908: 9; Winlock 1942: 134). This deposit contained many artefacts inscribed with the name of Hatshepsut, including a variety of model tools (fig. 3.4). Another foundation deposit was found by Lansing in his 1915 to 1916 season of excavation at the Valley Temple, which was located in Lower Asasif (fig. 3.1). This deposit appears to have been looted due to its disturbed appearance in excavation photographs (Lansing 1917; Weinstein 1973: 154, 162-163). In 1910 to 1911, Carter and Lord Carnarvon excavated deposits J and K, as well as two foundation deposits of the Valley Temple. These deposits contained a brick pillar with the praenomen of Hatshepsut (Maatkare) and model tools that were inscribed with the name of the temple, *Djeser-djeseru* (Carter and Carnarvon 1912: 39-40; Hayes 1959: 84). Two or three foundation deposits were

[45] The lettering system of the Deir el-Bahri foundation deposits follows those listed by Weinstein (1973: 153). For a complete discussion on the differing numbering and lettering systems used throughout the course of the excavations at the site, see Weinstein (1973: 153 footnote 157).

discovered and thoroughly looted before 1930[46]; however, Winlock, on behalf of the Metropolitan Museum of Art, discovered and excavated eight further foundation deposits at *Djeser-djeseru* from 1922 to 1927 (Weinstein 1973: 153). Most of these deposits contained model tools, dishes of food, and alabaster jars (Winlock 1932a: 327-8; 1942: 89).

Three of these foundation deposits discovered by Winlock were completely intact brick-lined pits along the eastern wall of the temple discovered in 1927 (deposits G, H, I in fig. 3.2, MMA deposit numbers 7, 8, 9), which contained alabaster jars and ovals, sandstone grinders, vessels containing organic materials including food, blocks of wood, faience amulets, beads, as well as the numerous scarabs, scaraboids, and cowroids used in this study (Weinstein 1973: 159-160). One hundred and ninety-two seal amulets were discovered in foundation deposit G (MET 7), eleven in deposit H (MET 8), and ninety-six were found in deposit I (MET 9) (Winlock 1942: 132).[47] Of these, one hundred

Figure 3.4: A variety of model tools found within foundation deposit A, nearly all of which are inscribed with the praenomen of Hatshepsut (Naville 1908: pl. CLXVIII).

and fifty-three scarabs from deposit G, nine from deposit H, and 71 from deposit I were transported to New York to be accessioned into the Metropolitan Museum of Art while the rest were retained in Egypt (Hayes 1959: 88).

[46] Deposits L, M, and N according to Winlock (1942: 153); however, only two robbed deposits were mentioned by Hayes (1959: 84-85).
[47] Winlock (1942: 124) stated that 299 scarabs, scaraboids, and cowroids were found in deposits G, H, and I; however, Weinstein (1973: 160) claimed that 306 were found in total from the three deposits. Hayes (1959: 88) also stated that 306 scarabs were excavated in the deposits; however, he asserted that a fourth deposit along the southeast wall, likely deposit B or C, contained the remaining scarabs to equal Weinstein's amount of 306 (Ben-Tor 2015: 139).

3.2.1.2. Seal Amulets from Djeser-djeseru (nos. 001-234 in Appendix D)

The foundation deposits of Queen Hatshepsut's mortuary temple contained many of the seal amulets in this corpus with 234 of the total 876 seal amulets. This large assemblage of seal amulets was chosen for the present study due to their secure and untouched chronological context. With the exception of the two or three looted deposits (L, M, and N), which were discovered after the other deposits were excavated (Hayes 1959: 84-85), the majority of the foundation deposits remained undisturbed beneath Hatshepsut's temple for nearly 3500 years.

Only the 234 seal amulets currently held at the Metropolitan Museum of Art were used in this study due to the present inaccessibility of the remaining sixty-five retained in Egypt. This is not an issue for the present study as those held at the Metropolitan Museum are a representative sample from these deposits.

Of these 234 seal amulets, 221 are 'true' scarabs with their backs carved to emulate the scarab beetle. Two of the seal amulets have a *wedjat* eye (fig. 5.23) modeled back with base inscriptions typical of seal amulets of the period (**224**, **225**) and thirteen of the seal amulets are cowroids. Two of the cowroids with decorated type IV backs, according to the Keel typology (1995: 78) depict a falcon with outstretched wings clutching *shen* signs upon their backs (**221**, **233**) (fig. 5.22).

One hundred and thirty-eight (62%) of the total seal amulets depict Hatshepsut's name and titles. These titles include *s3.t nsw.t*, 'King's Daughter', which alludes to her role during her father Thutmose I's reign, *ḥm.t-nṯr*, 'God's Wife', and *nsw.t bjtj* 'King of Upper and Lower Egypt', which would date to her co-regency with Thutmose III and sole reign, respectively, among other titles. Some of these seal amulets evoke the god Amun alongside the ruler (see Chapter 5.2.3.5). Thirteen seal amulets depict the name and titles of Hatshepsut's daughter Neferure, such as *s3.t nsw.t* and *ḥm.t-nṯr* and twenty-two have the name and titles of Menkheperre Thutmose III, her nephew and co-regent. The necessity of having such a large number of royal name and title seal amulets in this context is due to the 'stretching of the cord' ceremony, which required an evocation of the ruler Hatshepsut whose name is mentioned on the majority of the objects found in the foundation deposits (Hayes 1959: 84-88; Weinstein 1973: 117).

While the majority of the seal amulets contain the names and titles of Hatshepsut and her family (173 examples, 74%), thirty-seven seal amulets contain no text at all; rather, they depict geometric signs and motifs and scenes of nature, including cowroid **234**, which depicts a *bulti* fish with lotus buds emerging from its mouth (fig. 5.39, see Chapter 5.2.2.2). The rest of the seal amulets contain amuletic signs and/or the name of the god Amun or Amun-Re (see Chapter 5.2.2.1). The scarabs evoking the name of Amun are fitting due to the fact that *Djeser-djeseru* was dedicated to the god (Hayes 1959: 84) and also considering the vast majority of the objects found in foundation deposits in Thebes in the Eighteenth Dynasty name the city's patron god, Amun (Weinstein 1973: 115).

Nearly all of the scarabs in the *Djeser-djeseru* corpus were made of glazed steatite (98%). This will factor into a more detailed discussion of the scarabs from the *Djeser-djeseru* foundation deposits in regard to production in Chapter 6.2.1.1 and full details of each seal amulet in this corpus can be found in Appendix D.

3.2.1.3. Date of the Djeser-djeseru Seal Amulet Deposition

The seal amulets would have all been deposited at roughly the same time during the 'stretching of the cord' ceremony. The date of this ritual is posited to be during the seventh or eighth year of Thutmose III's reign, c. 1472-1471 BCE. This date has been suggested due to a number of factors including the presence of thirteen seal amulets found within the deposits bearing the young king's praenomen as it was written in his earliest years of his reign, Menkheperenre (Winlock 1942: 133; Hayes 1959: 84; see Chapter 5.2.3.6). Positing a date solely based upon the royal names carved into the seal amulets and other artefacts is problematic due to the frequent practice of retaining royal name scarabs as heirlooms and even the manufacture of scarabs depicting the names of long deceased royalty (Ben-Tor 1997: 164). Furthermore, the seal amulets from the foundation deposits demonstrate a chronological range of royal names from throughout Hatshepsut's life including titles from when she was solely 'King's Daughter' leading to when she was the 'King of Upper and Lower Egypt' and her daughter Neferure had taken over the title of 'King's Daughter'.

Winlock (1932a: 325-326; 1942: 133) also discovered a potsherd, with traces of preserved food, and labeled 'Year 7, Third Month of Proyet, 15th Day' alongside an ancient road leading to the temple. Winlock posited that the road to the temple would have been one of the initial aspects of construction before the foundation ceremony; therefore the 'stretching of the cord' ritual could not have taken place before the seventh year of Thutmose III's reign. He continued that foodstuffs were likely not kept in sealed jars for long periods of time and it is probable that the construction commenced on the temple shortly after the jar was made and then discarded after usage. Winlock (1932a: 325-326) further asserted that the construction of the temple must have taken place after Hatshepsut's famous expedition to Punt, which was engraved on the walls of *Djeser-djeseru*, an event which occurred in her seventh or eighth regnal year. He even suggested that the foundation ceremony would have taken place in the autumn due to presence of fruit in the deposits, which would have ripened in September or October.

The presence of seal amulets bearing the name of Neferure as 'King's Daughter', coupled with depictions of her among the living royal family in the temple suggests that the temple was in fact built before Neferure's death in the eleventh year of Hatshepsut's reign (Winlock 1932a: 325-326; 1942: 134).

While much of this evidence is circumstantial, together the evidence gives little doubt that the 'stretching of the cord' ceremony and the placing of the seal amulets in the foundation deposits occurred fairly early during the roughly twenty-year reign of Hatshepsut and provides a secure chronological context for the present study.

3.2.2. Sheikh 'Abd el-Qurna, Thebes

3.2.2.1. Archaeological Context & Excavation History

Sheikh 'Abd el-Qurna (fig. 3.1) was a large non-royal cemetery on the West Bank of Thebes. The cemetery, which was named after a mythical Muslim sheikh, is just to the south of Hatshepsut's mortuary temple *Djeser-djeseru*, separated by the Asasif valley. This cemetery held the tombs of some of the most significant officials of the Eighteenth Dynasty, including the tomb of Queen Hatshepsut's architect Senenmut (TT 71) and the tomb of his parents, Hatnefer and Ramose (Dorman 1991; 2005a; 2005c).

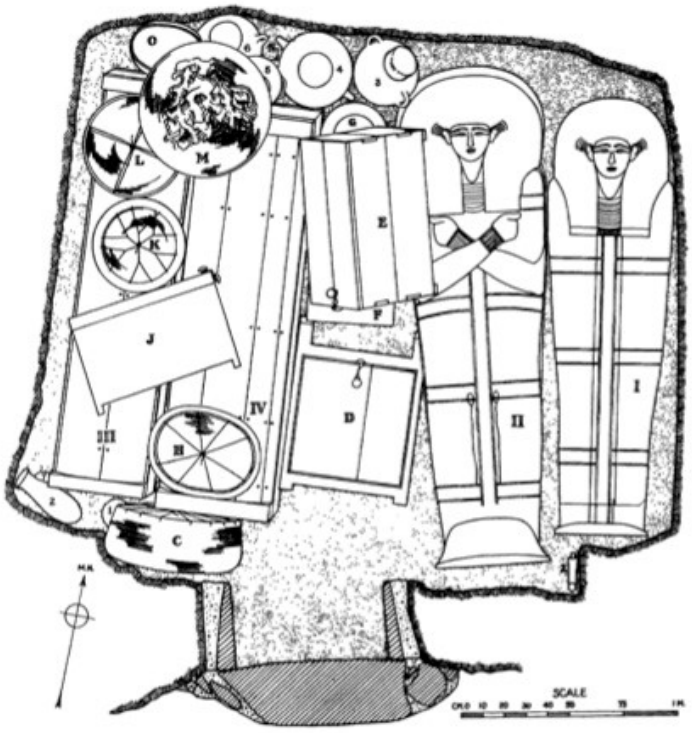


Figure 3.5: Plan of the Tomb of Hatnefer and Ramose, Sheikh 'Abd el-Qurna. The coffins of Ramose (I), Hatnefer (II), and six unidentified individuals (in coffins III and IV) are shown amongst a variety of grave goods (Lansing and Hayes 1937: 24 fig. 27).

Senenmut was one of the highest-ranking senior officials during Queen Hatshepsut's reign, and was one of the most influential elites of the entire Eighteenth Dynasty (Dorman 2005b: 107). Senenmut came from humble origins yet rose in rank in the court of Queen Hatshepsut alongside her growth in power. Senenmut was also the tutor of Hatshepsut's daughter Neferure and later the 'Great Steward of the God's Wife Hatshepsut' while Thutmose II lived. After Thutmose II's death and Hatshepsut's ascension to the throne, Senenmut gained his highest title, 'Great Steward of Amun' and was likely

the architect of Hatshepsut's mortuary temple *Djeser-djeseru* (Hayes 1959: 106-107; Dorman 2005b: 107-108).[48]

Senenmut has two decorated tombs in the Theban necropolis. TT 71 on the upper slopes of Sheikh 'Abd el-Qurna (fig. 3.1) was likely abandoned to build TT 353 in a more favourable location nearer to *Djeser-djeseru* in the Asasif valley (Winlock 1932b: 21-22; Dorman 1991, 21, 23; Dorman 2005c: 131). TT 71 was badly damaged and never used; however, during the construction of the tomb, a small burial chamber was built below the terrace for Senenmut's parents, Hatnefer and Ramose, and six unnamed individuals (Lansing and Hayes 1937: 31; Dorman 2005c: 132). The tomb of Hatnefer and Ramose was found intact and unlooted by Lansing and Hayes in 1936 while they were clearing the slope below the forecourt of Senenmut's tomb. A slab of stone secured by white mortar blocked the entrance to the intact tomb and left the contents of the burial chamber in 'excellent condition' away from damp or pests (Lansing and Hayes 1937: 12-16).

Neither of Senenmut's parents bore any stately titles and they appear to have come from a non-elite background (Lansing and Hayes 1937: 16; Dorman 2005b: 107). Senenmut's father Ramose died at a fairly young age and was buried in a simple coffin (fig. 3.5, Coffin I) wrapped in linen but not embalmed. Senenmut's mother, Hatnefer, appears to have lived much longer, into her sixties, and was given a more lavish burial in an inlaid coffin (fig. 3.5, Coffin II) complete with a gold and cartonnage funerary mask (MMA 36.3.1). Amongst other typical Eighteenth Dynasty burial goods, Hatnefer was buried with five seal amulets.[49]

Coffin III (fig. 3.5) contained the burials of four individuals, two unidentified young women and two children. These individuals were not embalmed but only wrapped in linen bandages; the children, Burials 1a and 1b were bandaged together (Lansing and Hayes 1937: 31). Coffin III contained three scarabs and nine cowroids; six of the cowroids were found within a kohl pot (MMA 36.3.7a,b) inside the coffin.

Coffin IV (fig. 3.5) contained the burials of another unidentified woman and an infant child. Amongst the woman's knees and hands, eighteen scarabs, scaraboids, and cowroids were found.

[48] Senenmut is often attributed as the architect of Hatshepsut's mortuary temple due to him bearing the title 'Overseer of Works of Amun in *Djeser-djeseru*' (Dorman 2005b: 108).
[49] The tomb contained boxes of linen (MMA 36.3.56a,b), food offerings (MMA 36.3.73, 36.3.64, 36.3.79, etc.), 'marsh bowls' (MMA 36.3.8), mirrors (MMA 36.3.13), kohl jars (MMA 36.3.62), and a canopic chest (MMA 36.3.53a,b), amongst other typical early-mid Eighteenth Dynasty burial goods (Lansing and Hayes 1937: 12-28; Dorman 2005a: 91-95).

Lansing and Hayes (1937: 30) have suggested that all eight persons interred in the burial chamber were of the same family based upon the similar royal names on the seal amulet bases, royal names that were closely associated with Senenmut. Furthermore, they believed that the bodies were all interred at roughly the same time (Lansing and Hayes 1937: 31). While it is likely that Lansing and Hayes were correct in that the interred people were of the same family (Dorman 2005a: 91), Ramose was 'considerably younger' when he died than Hatnefer was when she was embalmed. Furthermore, Ramose's relatively impoverished burial in comparison to Hatnefer's could denote that he was buried before their son Senenmut gained his coveted position in Hatshepsut's court (Dorman 2005a: 92). The sealing of the tomb of Hatnefer and Ramose is generally believed to have been around Regnal Year Seven of the reign of Thutmose III due to the inscriptions on jar seal impressions within the

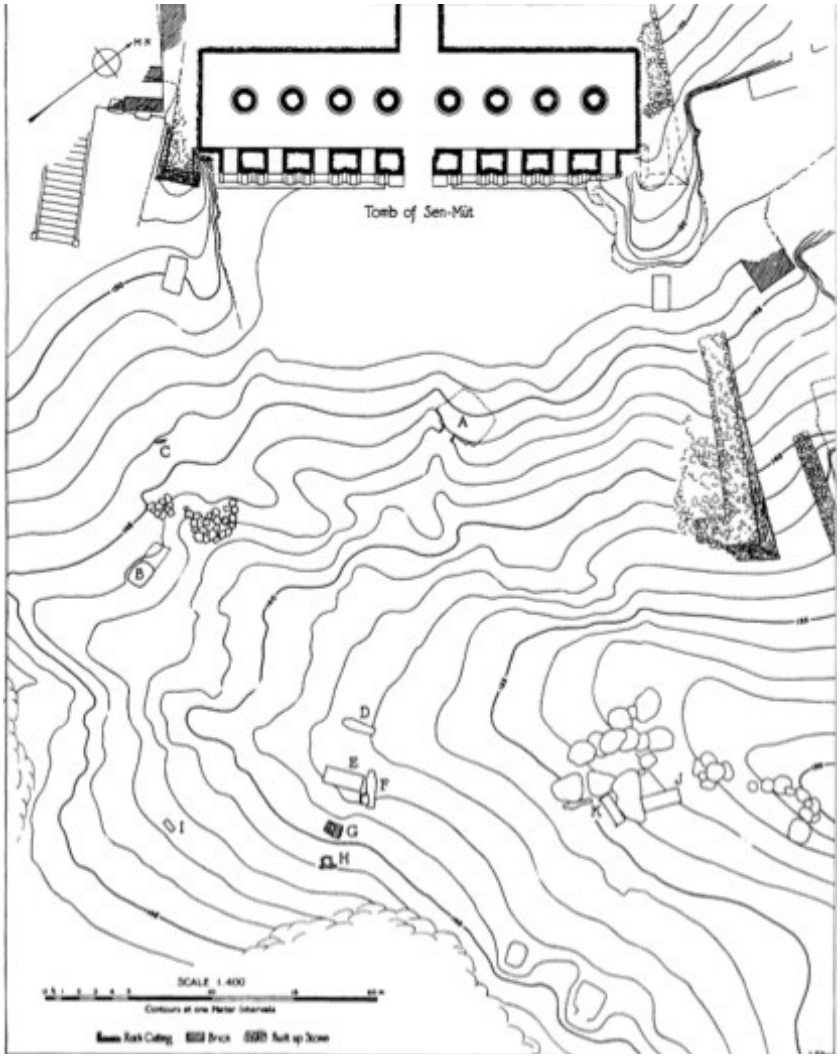


Figure 3.6: Topographical plan depicting the Tomb of Senenmut near the top of the Sheikh 'Abd el-Qurna hill. The small tomb for the child Amenhotep (B) was located just south, down the hill, of Senenmut's tomb (Lansing and Hayes 1937: fig. 8).

tomb (Lansing and Hayes 1937: 30; Hayes 1959: 81; Dorman 2005a: 92). After the tomb was sealed, the opening was camouflaged by a large pile of stone chip generated from the carving of Senenmut's tomb, TT 71 (Lansing and Hayes 1937: 34).

The aforementioned mound of stone chip also covered a small tomb (fig. 3.6, B) of a child called Amenhotep. Amenhotep was buried in a wooden coffin and had a few good quality grave goods (Lansing and Hayes 1937: 35-36).

In the late 1920s, Winlock's team uncovered another burial in the stone chip mound outside of Senenmut's tomb, years prior to Lansing and Hayes' discoveries. An elderly woman was found in a simple coffin that was somewhat carelessly on its side within the pile of rubble. She had a simple burial with only a kohl pot and a scarab ring (Winlock 1932b: 21-22).

3.2.2.2. Seal Amulets from Sheikh 'Abd el-Qurna (nos. 235-271 in Appendix D)

The unlooted tomb of Hatnefer and Ramose yielded sixteen scarabs, fifteen cowroids, and two scaraboids. The mummy of Hatnefer bore a serpentine heart scarab (**250**) on a long gold chain, with one scarab (**235**) under her arm (likely as a bracelet), and one inscribed with the name of Hatshepsut (**236**) tied to her left thumb. Two cowroid rings (**251**, **252**) were also found on her left hand (Lansing and Hayes 1937: 20, 22, 29; Dorman 2005a: 93-94).

Coffin III held three unknown individuals and a total of nine scarabs and cowroids. Burials 1a and 1b were of two children bound together and had a total of two scarab rings (**237**, **239**) and one cowroid ring (**253**) found amongst their hand bones. The scarab ring associated with Burial 1a (**237**) was inscribed with the royal title *nsw.t bjtj* and the one associated with Burial 1b (**239**) was inscribed with *ḥm.t nṯr Ḥ3.t-špsw.t*; it is possible that the scarab of Burial 1a was also associated with the female pharaoh. The unidentified woman in Coffin III had one cowroid (**254**) found at her pelvis, but more interestingly, an heirloom scarab ring inscribed with the name of Queen Ahmose (**238**), the principal queen of Thutmose I, was found amongst her left-hand bones. A kohl jar within Coffin III contained six cowroids, four of which are now in the Metropolitan Museum (**255**-**256**, **258**-**259**) and two in the Cairo Museum. Three of these cowroids contained the name of Thutmose II (**255**, **256**, third in Cairo), while the others were inscribed with geometric motifs or their bases were left blank (**258**-**259**, third in Cairo). A final faience cowroid (**257**) was found loose on the floor of Coffin III (Lansing and Hayes 1937: 30-32).

Coffin IV contained twenty-three seal amulets and beads amongst the deceased's knees and right hand. A haematite and gold cowroid ring (**265**) would have been worn on her hand but the rest of the seal amulets were largely made of glazed steatite or faience and would have been strung on linen cords as bracelets and rings. Nine of the steatite or faience seal amulets were scarabs with floral or geometric designs (**240**-**248**), one was a double scarab with wavy lines incised on the base (**249**), and four were cowroids that were either inscribed with floral or faunal motifs or were left blank (**260**, **262**-**264**). A schist cowroid (**261**) would have also been strung amongst the steatite and faience seal

amulets. The final two seal amulets were scaraboids; one shaped as a duck (**266**) and another in the shape of a cartouche (**267**) (Lansing and Hayes 1937: 30-31).

The small, unlooted tomb of the boy Amenhotep bore one small cornelian scarab mounted in a gold ring (**268**) on his left hand. The base decoration of this semi-precious stone scarab is a simple 'X' (Lansing and Hayes 1937: 36; see Chapter 5.2.2.4).

The burial of the unidentified elderly woman outside of Senenmut's tomb (TT 71) yielded a single steatite scarab (**271**) bearing the name and title of Hatshepsut's daughter 'God's Wife Neferure' (Winlock 1932: 22).

3.2.3. El-Khokha, Thebes

3.2.3.1. Archaeological Context & Excavation History

The cemetery of el-Khokha lies roughly three hundred metres to the east of the necropolis of Sheikh 'Abd el-Qurna and directly to the south of the causeway of Mentuhotep II's mortuary temple at Deir el-Bahri (fig. 3.1). El-Khokha is a small, elongated hill that bears rock-cut tombs dating to the Old and New Kingdoms (Strudwick and Strudwick 1999: 14).

A notable intact tomb (MMA 729) at el-Khokha containing the burials of Neferkhawet, his wife Rennefer, and eight family members (fig. 3.7) was found by Hayes during the 1934 to 1935 season of the Metropolitan Museum of Art's excavations in Egypt (Hayes 1935; Smith 1992: 195). To the west of the bottom of a deep vertical shaft, there are two small chambers which contained the coffins and burial goods of Neferkhawet (Coffin I in the furthest west chamber) and Rennefer (Coffin II in the chamber just off the shaft). Two larger chambers were dug, one on top of another (upper eastern

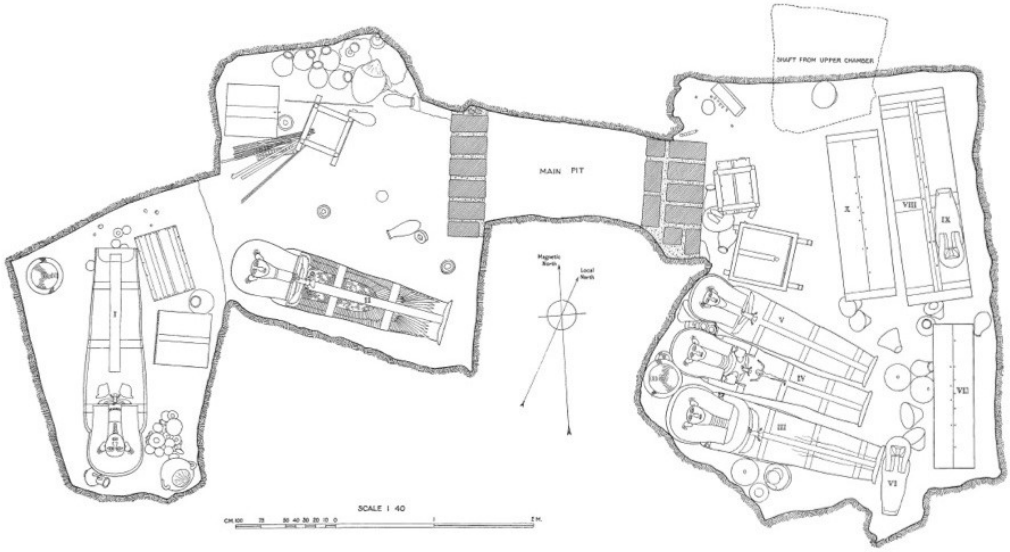


Figure 3.7: Plan of the tomb of Neferkhewet (MMA 729), which contained his burial (Coffin I), his wife Rennefer (Coffin II), daughter Ruyu (Coffin IV), son Amenemhat (V), and a man named Bakamun/Baki (relation unknown) (Coffin III). Five more coffins (Coffins VI-X) contain the burials of infants, children, and one unknown woman (Coffin VIII) (Hayes 1935: fig. 1).

chamber, which had collapsed in the Graeco-Roman Period, not shown in fig. 3.7), to the east of the shaft. The upper eastern chamber, which appeared to have contained at least one wealthy burial[50] had been plundered in antiquity; however, the other three chambers and the main shaft had been left untouched, as visible by the intact door blocking observed by Hayes at the time of excavation (Hayes 1935: 17-18).

The lower eastern chamber contained a further eight coffins. The burials of Amenemhat (Coffin V) and Ruyu (Coffin IV), the son and daughter of Neferkhawet and Rennefer[51], respectively, lie nearest to the entrance of the chamber from the shaft. Coffin III, which was positioned between the coffin of Ruyu and the southern wall of the chamber, held the burial of a man named Bakamun, called Baki, whose relationship to the family was unknown but has been suggested by the excavators to be the husband of Ruyu (Hayes 1935: 18; Dorman 2003: 34-37). These five bodies were all placed in gilded and inlaid anthropoid coffins but were not fully mummified.[52]

Five other coffins in the lower eastern chamber held unnamed individuals; an adult woman in a 'usurped' coffin (Coffin VIII),[53] a six-year-old boy (Coffin VII), a nine or ten-year-old boy (Coffin X), and two infants, aged six months (Coffin IX) and one year (Coffin VI). These bodies were simply wrapped in poor quality linen sheets with no attempts at embalming and were placed in simple wooden coffins.[54] The only burial goods definitively associated with these burials was a scarab ring placed on the hand of the boy in Coffin X and a rough ceramic vessel in the coffin of the unnamed woman (VIII) (Dorman 2003: 35).

Dorman (2003: 35-36) noted that these burials would have been interred at different times; this is evident from Hayes' (1935: 17) observation that the door blockings of the upper and lower eastern chambers had been 'taken down and rebuilt several times', which he presumed occurred each time a new burial was moved into the chamber. It is likely that some of the burials in the eastern chamber had been interred via an intrusive shaft leading from the upper eastern chamber (visible in fig. 3.7), which could account for the placement of coffins III-VI, 'curiously crowded into one corner' (Dorman 2003: 35).

[50] Hayes (1935: 18) noted that the upper chamber contained fragments of elaborate objects including a faience bowl dedicated to Hathor, alabaster and diorite vessels, and other quality burial goods. Since this chamber was plundered and damaged, it is not included in this study.
[51] The familial ties are echoed on a small statue of Neferkhawet and Rennefer (MMA 2012.412, provenance unknown) dedicated by their daughter Ruyu, which also names son Amenemhat and a woman named Amenhotep (perhaps a daughter who may have been buried in the upper eastern chamber) (Dorman 2003: 36-37).
[52] Dorman (2003: 34-35) noted that the bodies were treated with natron and pitch to aid in preservation, but their viscera were never removed, despite three of the coffins having corresponding canopic chests and jars, which were left empty.
[53] Coffin VIII would have originally been destined for another owner. This is evident as the original inscription was obscured by a layer of mud (Hayes 1935: 18; Dorman 2003: 35).
[54] The usurped coffin VIII was the most elaborate of the unnamed burials. The coffins of the two children were simple rectangular wooden coffins and the infants were placed in crude anthropoid coffins (Dorman 2003: 35).

While the ten burials were likely interred successively between the years of 1520 and 1460 BCE,[55] the tomb was ultimately sealed during the reign of Hatshepsut and Thutmose III when the construction of the causeway of Hatshepsut's Deir el-Bahri temple cut off the top of the tomb's shaft and sealed it until its 1930s discovery by Hayes (Dorman 2003: 36; Miniaci in Rosati 2016: 228).

Carter and Carnarvon Tomb CC 37 was discovered by Howard Carter and Lord Carnarvon from 1910 to 1911 as part of a series of Middle Kingdom to early Eighteenth Dynasty tombs found at el-Khokha (fig. 3.8). CC 37 is a large inverted T-shaped tomb (fig. 3.9), which dates to the Middle Kingdom[56] but was used to inter multiple burials from the late Second Intermediate Period to the early Eighteenth Dynasty. Smith (1992: 194) described the tomb as lightly pilfered but many of the burials remained intact in fully sealed chambers. Carter (1912: 65) noted that the tomb was plundered in the late Middle Kingdom or early Second Intermediate Period and was left abandoned until it was used as a burial storehouse in the late Second Intermediate Period to Early Eighteenth Dynasty, as visible by the numerous later burials resting upon the refuse of the previous plundering, as well as the 'common material cultural phase', which dated to the end of the Second Intermediate Period and start of the Eighteenth Dynasty (Miniaci in Rosati 2016: 228).

The tomb's frontage is a long rock cut open court measuring eighteen metres across and oriented east to west (fig. 3.9), which contained six coffins. Chamber A and a smaller Chamber B were cut off the back of the court at a right angle and contained eight and four coffins, respectively. Chamber A was sealed with crude mudbricks and mortar and was stamped in numerous places with a seal of the *nb.ty* name of Thutmose I. Chamber B was simply blocked by a mound of stones at its entrance and had a coffin placed in front of it (Burial 6 in the courtyard). A long 'central passage' was also cut at a right angle to the court oriented north to south and terminates with two large chambers. The passage itself held three burials and the northern terminus of the passage led to 'hall' chamber C. The entrance of the hall had been sealed on more than one occasion as evident by the different composition of mortar used on the upper third portion of the closing.[57] Carter (1912: 65) believed that this hall was sealed twice to allow successive burials.

[55] A scarab bearing the name of Thutmose I from Rennefer's burial (298) acts as a *terminus a quo* for the burial. However, as Dorman (2003: 36) noted, this scarab could have been an heirloom object and cannot be used to definitively date the internment of Rennefer.

[56] Carter (and Carnarvon 1912: 64) believed that the tomb was built and originally used in the late Middle Kingdom, whereas Miniaci (in Rosati 2016) asserts that it was more likely built and first used in the early Middle Kingdom.

[57] Carter (1912: 65) observed that the bottom two-thirds of the blocking for Hall Chamber C was comprised of crude mud bricks and *Tafle* mortar and the top third was constructed with mud bricks and mud mortar. Furthermore, leftover mud mortar was left at the northern terminus of the central passage at the blocking to Chamber C 'just as it was left by the ancient mason'.

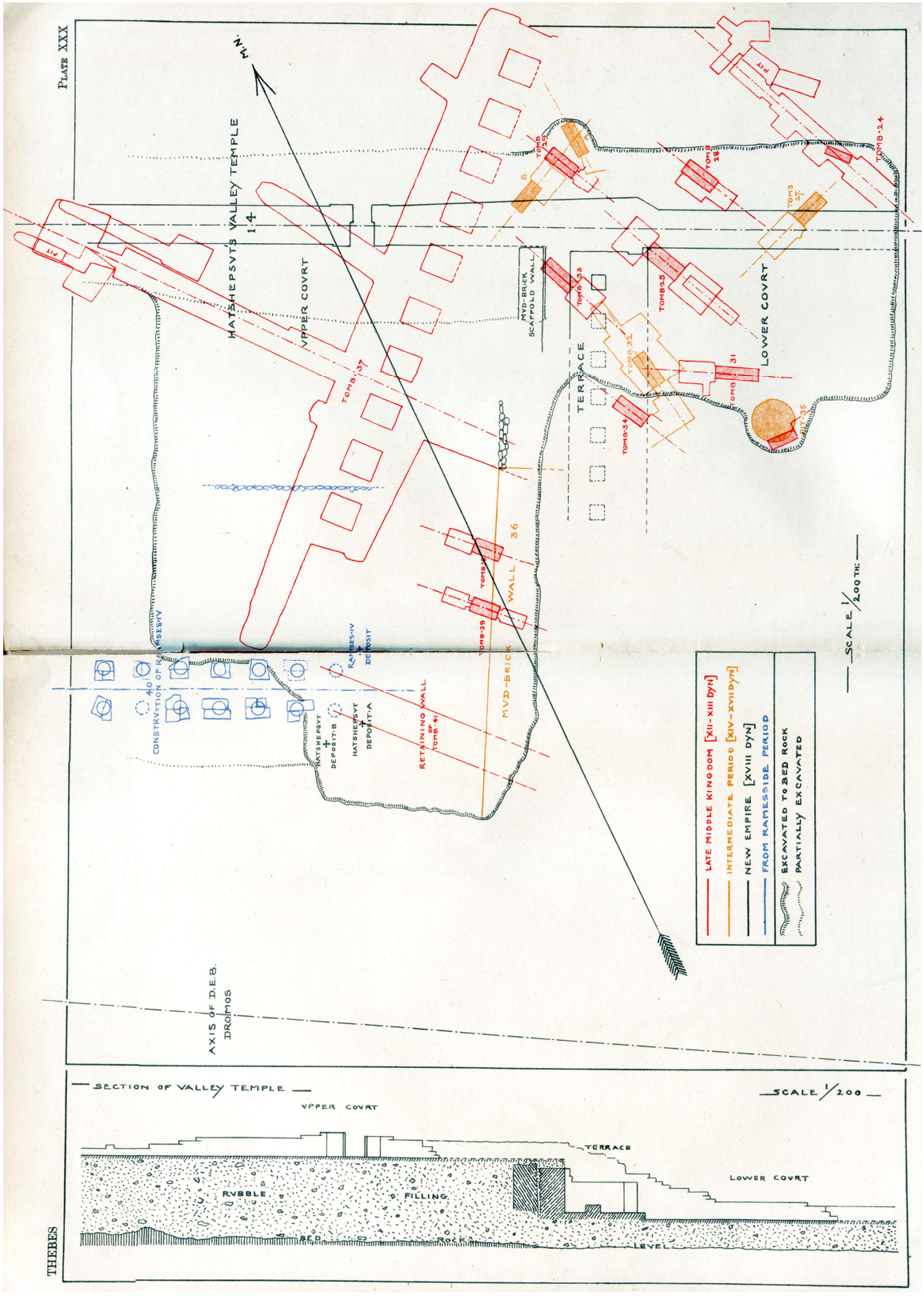


Figure 3.8: Plan showing the location of Tombs CC 37 in the north and CC 41 to the south (in the centre of the image) beneath the Valley Temple and causeway of Hatshepsut's mortuary temple (Carter and Carnarvon 1912: Plate XXX).

Hall chamber C contained fourteen coffins and led into small Chamber F and Pit D, the latter of which descended into Chamber E. Pit D held eighteen coffins stacked upon each other and Chamber E held a further eight coffins. Chamber C also contained an entrance into Staircase H on its southern

wall, which descended into Passage I. Passage I led into Chamber J, which only contained a pot and the bones of a bull (Carter 1912: 64-65, plate LV). A total of sixty-four coffins were interred in Tomb CC 37; some of these coffins contained as many as four mummies.

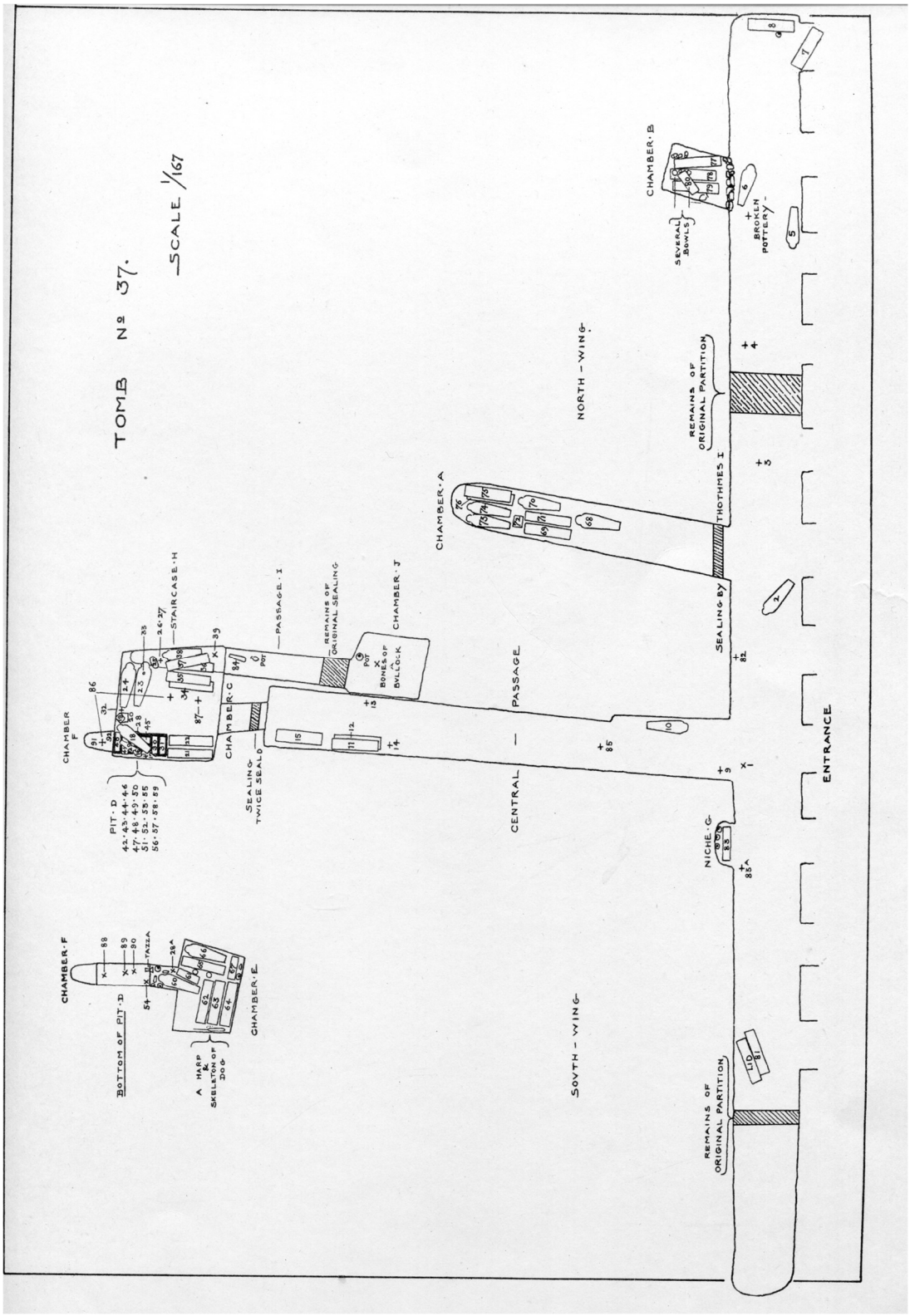


Figure 3.9: Plan of Carter and Carnarvon Tomb CC 37, which shows the locations of the many coffins and grave goods found within, underneath the Valley Temple of Queen Hatshepsut (Carter and Carnarvon 1912: Plate LV).

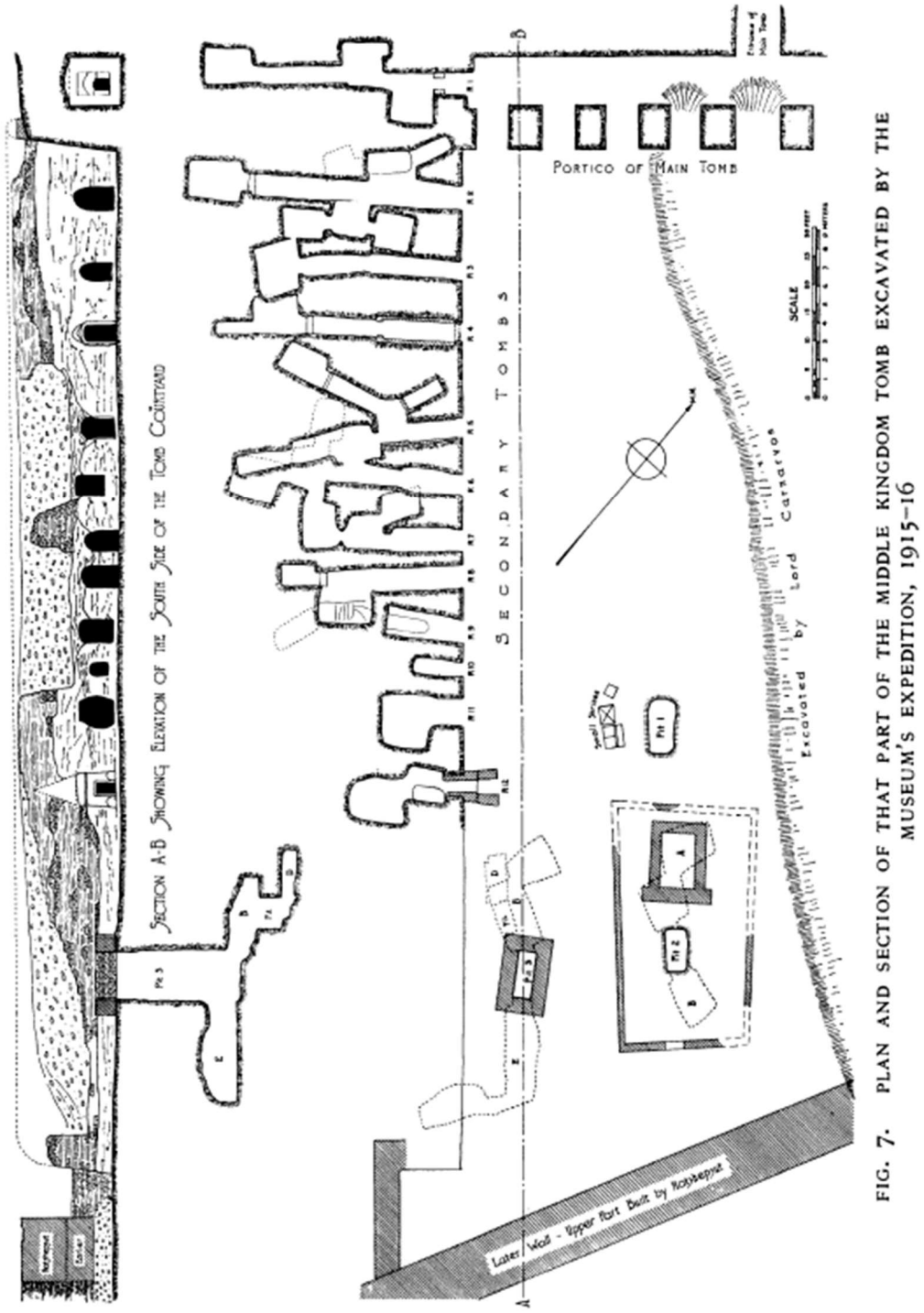


FIG. 7. PLAN AND SECTION OF THAT PART OF THE MIDDLE KINGDOM TOMB EXCAVATED BY THE MUSEUM'S EXPEDITION, 1915–16

Figure 3.10: Plan of Tomb CC 41 on the right and the subsidiary tombs (R1-12, also shown in the section above) on a right angle to CC 41's porticoed courtyard. Pits 1-3 are visible at the southwestern end of the courtyard, near to a later wall built during the reign of Hatshepsut (Lansing 1917: fig. 7).

Carter observed that the separate burial chambers (Chambers A, B, E, F, and J) were sealed off but the large open court and central passage would have been left open, perhaps for 'any ceremonial rites that might be made by the living relations in favour of the deceased' (Carter 1912: 64). The dating

of the many burials has been suggested based primarily from graves goods, such as coffin decoration and engraved objects, especially scarabs.[58]

A large tomb named Carter and Carnarvon Tomb CC 41 was discovered just south of Tomb CC 37 (fig. 3.8) in the final few days of Carter's 1911 season. This tomb was partially excavated by Carter and Carnarvon in 1912 and 1913, and later Ambrose Lansing who fully excavated the tomb in the Metropolitan Museum of Art's 1915 to 1916 season (Carter 1912: 88; Lansing 1917). Similar to CC 37, CC 41 was formerly a Middle Kingdom tomb that was fully plundered and left empty until a number of late Seventeenth and early Eighteenth Dynasty burials were placed within the chambers on top of the refuse. The subsequent leveling of the ground for Hatshepsut's mortuary temple causeway sealed the tomb and hid it from ancient and modern looters until it was later opened by Lansing and his team (Lansing 1917: 10, 12).

CC 41 (fig. 3.10) also contained a large rock-cut porticoed courtyard oriented northeast to southwest, whose main burial chamber was situated behind the columns of the courtyard. At the southwestern end of the courtyard, twelve subsidiary, or 'secondary', burials (R1-12) were cut into the rock face at a right angle to the main tomb CC 41. Some of these burials were simple, single chamber rooms, and others contained multiple chambers and remnants of painted tomb decoration from their original use in the Middle Kingdom. Further to the southeast, three pit burials were dug into the open, rock courtyard (Pits 1-3). Pit 1 was a simple vertical shaft. While only Pit 2 had a superstructure, both Pit 2 and 3 had multiple chambers emanating off the vertical shaft.

Many of the organics were badly damaged in the burials around CC 41; Lansing (1917: 16) observed that white ants had destroyed the wood from some coffins to the point that they had completely collapsed. However, the majority of discernible coffins were of the *Rishi* style (meaning 'feathered' in Arabic) that was particularly popular in the Seventeenth Dynasty and ceased in use during the early Eighteenth Dynasty (Miniaci 2011).[59] Otherwise, Lansing (1917: 18) stated that most of the burials were 'those of people in poor circumstances' and without many grave goods. Most of the grave goods were items of personal use for daily life, such as kohl pots and mirrors.[60]

Subsidiary burial R2 was the largest internment and contained at least thirty-three burials, many stacked upon each other. Lansing (1917: 13) noted that some of these burials would have been successive as the blocking at the entrance of the tomb had been removed and rebuilt at least four times. One of the most interesting assemblages found within R2 belonged to a woman; she was found with a harp in good condition in her coffin, as well as a horn and two hard wood boomerangs (Lansing

[58] For a full discussion of the dates of each of the burials from Tomb CC 37 organised by coffin type, see Carter 1912: 66-70.
[59] MMA 12.181.301a,b is a fine example of a painted wooden *Rishi* coffin that Lord Carnarvon gifted to the Metropolitan Museum of Art from Tomb CC 41's 1911-1912 excavation.
[60] For examples of the numerous kohl pots found in CC 41, see MMA 16.10.431, 16.10.255a-c, and 16.10.372a,b. For examples of mirrors found in CC 41, see MMA 16.10.449, 16.10.381a,b, and 26.7.835a,b.

1917: 20). Unfortunately, Lansing only cursorily reported on the presence of the other thirty-two burials in tomb R2. The other eleven subsidiary burials (R1 and R3-12) are not published by Lansing but plans of which can be seen in figure 3.10.

Near the entrance of Pit 1 are three small brick shrines (fig. 3.10), at the base of which, model bread loaves and crude shabtis were found. In the niches inside the central shrine, a scarab and a miniature (3.5 cm high) glazed steatite stela bearing an offering inscription to Ahmose and his wife of the same name were found (Lansing 1917: 20).

Pit 2 (fig. 3.10) was cut below a simple offering chamber superstructure. Based on the style of the remaining painted wall scenes, this tomb is dated to the Eighteenth Dynasty. The main burial chamber (A), which was below the offering chamber superstructure, held four coffins, one of which was named as "the superintendent Khay" who lived in the late Second Intermediate Period or early Eighteenth Dynasty.[61] Lansing did not describe the other burials in Pit 2 (Lansing 1917: 20; Smith 1992: 195).

Pit 3 (fig. 3.10) had no superstructure but contained what Lansing (1917: 21-26) deemed to be the most important burials of the season. A wealthy burial was found in the western chamber off the shaft (Chamber B). Within the early Eighteenth Dynasty coffin a large mirror, alabaster jars, an ivory dish, a red jasper scarab, and other high-quality goods were found. This coffin covered the entry to a small subsidiary pit, which led to Chamber D below. In Chamber D, a nested coffin was discovered bearing the name of 'Nakht' with a mummy within, and a variety high quality grave goods, including a metal hinged kohl vase, a bronze sword and other weapons, and an elaborately carved dark green stone heart scarab (in Cairo). Based upon the grave goods, Nakht's burial likely dates to the early Eighteenth Dynasty, as well. A burial in the eastern chamber off the shaft (Chamber E) held another burial with a sword and other weapons, alongside a decorated gaming board and other grave goods. Other anonymous burials were also found in Pit 3 but were not described by Lansing (Smith 1992: 195).

3.2.3.2. Seal Amulets from el-Khokha (nos. 272-357 in Appendix D)

Twenty seal amulets (**272**-**291**) were studied from the burials of the Tomb of Neferkhawet and Rennefer (MMA 729). Other than a scarab ring found on the left hand of the unnamed burial of a young boy in Coffin X (**275**), the rest of the seal amulets were associated with the named burials. A

[61] Smith (1992: 195) believed that the burials and superstructure associated with Pit 2 and the notable occupant Khay date to the late Seventeenth Dynasty, whereas Lansing (1917: 20-21) believed that the offering chamber superstructure and pit was likely cut and constructed in the Seventeenth Dynasty but was not used until the early Eighteenth Dynasty due to the style of wall paintings, alabaster vases in Chamber B that he suggested date to the reign of Amenhotep I, and the presence of a scarab bearing the name of Thutmose III on one of the anonymous burials in the pit.

serpentine heart scarab (**272**) was found along with two scarab rings (**273-274**) on the mummy of Neferkhawet. The mummy of Ruyu was also found wearing three scarab rings on her left hand (**281-283**). Four scarabs and a cowroid (**276-280**) were found inside a wooden box within a small basket next to the head end of Ruyu's coffin and at least four of the scarabs associated with the burial of Ruyu appear to be Second Intermediate Period in date. The remaining seven scarabs (**284-290**) were found inside an elaborate faience inlay jewellery box (MMA 35.3.79) inside the coffin of Rennefer, and one cowroid (**291**) was found in a bowl, also within Rennefer's coffin. Scarab **284**, which was inscribed with the throne name of Thutmose I, from the coffin of Rennefer, acts as a *terminus a quo* for this collection of scarabs.

Carter and Carnarvon Tomb 37 contained many burials (the exact number was not published), an assortment of grave goods, and seal amulets, thirty-two of which were studied. Most of the seal amulets (29 out of 32) were found on mummies; however, there is one scarab (**317**) whose findspot was not recorded within in the tomb. Two more scarabs (**293**, **311**) were found inside a large rush basket on the floor of Hall Chamber C. This basket was finely woven and contained a variety of objects including a razor and sharpening stone, a cedar kohl box, leather sandals, and two smaller baskets. The larger of the two baskets held scarab **293**, which was carved of green jasper with the praenomen and nomen of Amenhotep I. The smaller basket held scarab **311**, which, based on style, appears to have been made in the early Eighteenth Dynasty.

Hall Chamber C contained a further five scarabs, two of which were found on the hands of the burials in Coffin 21 and 23 (**315** and **313**, respectively). Scarab **315** was found on the mummy of a man and was inscribed with the name and title of Queen Hatshepsut, *ḥm.t-nṯr H3t-šps.wt*, 'God's Wife Hatshepsut', which dates to her joint reign with Thutmose III. The last three scarabs (**309**, **314**, **312**) were found inside Coffins 24, 36, and 37, respectively. Scarab **309** is especially notable as a highly skilled frit scarab with a gold bezel, which features a detailed carving of a winged scarab upon its base.

Twenty seal amulets were found associated with burials in Pit D. Burial 52 contained a mummy of a woman wearing a red jasper scarab on her left hand (**302**); this scarab had a *bulti*/tilapia fish engraved upon its base, a common motif during the early Eighteenth Dynasty (Chapter 5.2.2.2). Coffin 59 in Pit D held four bodies, two of which (Burials 59A and D) wore scarab necklaces that contained a total of eighteen seal amulets. Two of the scarabs were inscribed with the names of Thutmose I and II (one in Cairo and **296**, on Burial 59A and D, respectively) (Carter 1912: 66-67). Scarab **298** from Burial 59D was inscribed with *nsw.t bjtj* and fish scaraboid 336 from the same necklace was inscribed with the cartouche of Nefertari, likely alluding to Queen Ahmose-Nefertari, wife of Ahmose I and mother of Amenhotep I (see Chapter 5.2.3.1).

Chamber A contained a solitary scarab (**299**) inscribed with the name of the god Amun-Re on the hand of a man buried in a coffin named for Mentuhotep (Coffin 74). Chamber B contained three cowroid rings (**319**-**321**; as well as scarabs in the museum in Cairo) on burial 78, made of Egyptian alabaster, glass, and lapis lazuli, respectively, surrounded by decorated gold ring mounts. A solitary scarab ring (**316**) was found on the left hand of a mummy of an adult man in Coffin 77. Carter (1912: 70) observed that in all instances in Tomb CC 37, when the scarab was found on the hand of a mummy, it was attached to the third finger on the left hand.

Thirty-four seal amulets are known from Carter and Carnarvon Tomb CC 41 at the Metropolitan Museum of Art. Seven of the seal amulets (**347**-**352**, and **357**) are from the Carnarvon excavations from the 1911-1912 season, which Lord Carnarvon gifted to the Metropolitan Museum in 1926.

Eight scarabs were found in subsidiary tomb R2. One cowroid each was found on burials B3 (**354**) and F6 (**355**), and another scarab was found on burial E3 (**326**). Cowroid **355** was inscribed with the praenomen of Thutmose I, Aakheperkare. Three scarabs were found on burials F1-4 (**327**-**329**); interestingly, both scarabs **327** and **329** have a *bulti*/tilapia fish carved upon the base (Chapter 5.2.2.2). Burials G1 and G2 also contained one scarab each (**330**-**331**), although due to the preservation of the bodies, discerning which scarab belongs to which body, or if they both belong to one body, is impossible.

R3 contained one scarab on burial B1 (**332**) and R9 contained two scarabs on the mummy of A1 (**333**-**334**). Scarab **333** was inscribed with *nb.w ʿnḫ nsw.t bjtj* and scarab **332** was a very worn but nonetheless interesting example of an *anra* scarab, a type originating in the Southern Levant (Chapter 5.2.2.5).

Pit 2, the tomb of Khay, contained eight scarabs on five different bodies. A large unfinished green jasper heart scarab (**353**) was found upon the body of burial D3, likely the tomb owner Khay. The body of the scarab was carved exquisitely; however, the standard heart scarab formula, the Book of the Dead Chapter 30B was only partially scratched into the base before the craftsperson stopped after the second register of text (fig. 5.53). A rounded cowroid ring was found on the hand of burial A4 (**356**) and the other six scarabs were found on Burials B, C1, and C2. Scarabs **335** (burial B), and **336** to **339** (burial C1) were inscribed with standard motifs of hieroglyphs and geometric patterns.[62] Scarab **340** from burial C2 was inscribed with the name of Thutmose III carved inside a winged cartouche over a papyrus skiff.

The final seven scarabs were found within Pit 3. Three scarabs were found on the bodies of B3, B6, and C6 (**341**, **342**, and **325**, respectively). Two further scarabs were found on the body of burial E1 (**343**-**344**); scarab **343** invokes the name of the god Amun upon its base. Burials E4 and E6 each

[62] For a discussion of the repertoire of motifs for the period, see Chapter 5.2.

contained one scarab (**345** and **346**, respectively). Scarab ring **351**, found in the *radim* or debris of the courtyard of CC 41, was inscribed for a man named Nakht, carved with 'Nakht, justified'.

Like Carter (1912: 70), Lansing (1917: 20) also observed that when the exact location of a scarab could be determined, 'single scarabs were invariably found to be fastened with string to the third finger of the left hand'.

3.2.4. Lahun (Tomb of Maket)

3.2.4.1 Archaeological Context & Excavation History

Figure 3.11: Satellite view of Egypt showing the location of Lahun at the opening of the Fayum and Gurob and Sedment to the south.

The city of Lahun is a walled Middle Kingdom settlement located to the southeast of the Fayum Oasis along the Bahr Yusuf branch of the Nile (fig. 3.11). Roughly one kilometre west of the town is the pyramid of Senusret II and the rich Twelfth Dynasty burial of Princess Sithathoriunet. The town, excavated by Petrie from 1889 to 1890, was laid out in an orthogonal grid format with evidence of social stratification in the house sizes and locations (Petrie 1891; Baines and Malek 2002: 130; Quirke 2005: 43-47).

Within the Middle Kingdom town, many of the Twelfth Dynasty houses had rock cut cellars closed by wooden trap doors. During the Eighteenth Dynasty one of the larger cellars[63] became known to an elite family and was reused and enlarged to be a family tomb (fig. 3.12). Once the tomb was sealed

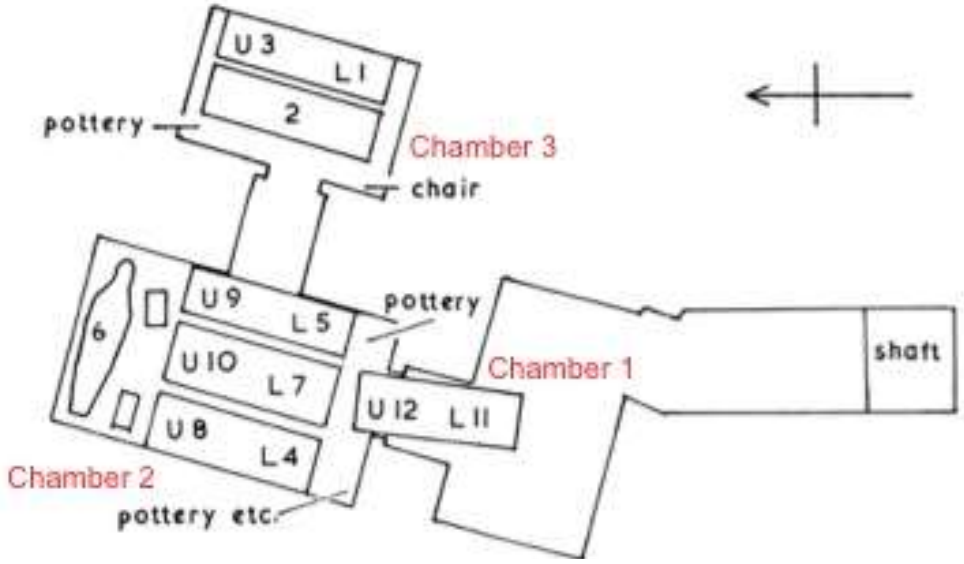


Figure 3.12: Plan of the Tomb of Maket in Lahun with chamber numbers added by author for clarity. The coffins are numbered with many stacked two high (i.e. 'U12' is the upper coffin stacked on top of 'L11') (Hankey and Tufnell 1973: fig. 1).

in antiquity, it remained undisturbed until excavation (Petrie 1891: 21; Hankey and Tufnell 1973: 103; Quirke 2005: 113-114). The outer and innermost chambers were both rock cut (Chambers 1 and 3[64], respectively on fig. 3.12), whereas the middle chamber (Chamber 2) was 'roofed and lined with blocks of fine white limestone' (Petrie 1891: 21). In all, the tomb held twelve coffins, two 'infant boxes', and an estimated total of forty to fifty bodies. However, providing an exact number of bodies is difficult. While Petrie (1891: 21-24) mentioned that the preservation of the coffins and other burial goods was adequate[65], he revealed that the bodies themselves were very fragile and 'were all reduced to black powder which crushed up with a touch'. Hankey and Tufnell (1973: 104) posited that the box coffins containing multiple burials may have been treated more as a 'portable shaft grave', similarly to another box coffin burial found at Lahun.[66]

The outermost chamber, Chamber 1, contained 'a good deal' of course pottery scattered on the ground, as well as eight scarabs, scaraboids, and cowroids (**778**, **780**, **782**, **793**, **808-811**); however, the seal amulets were found through sieving and therefore, their exact findspots within the chamber were not documented. A bronze fishing spear and an Egyptian cubit measure were also found in this room (Petrie 1891: 23).

[63] Hankey and Tufnell (1973: 103) noted that the cellar was 'unusually large' and was cut roughly four metres below ground level.
[64] Chamber numbers have been assigned by the author of this study in order to provide clarity to Petrie's publication (1891) and Hankey and Tufnell's discussion of the tomb (1973).
[65] Unfortunately, none of the coffins were kept by Petrie (Hankey and Tufnell 1973: 108).
[66] This other box coffin burial, containing five burials (burials K 1-5) was found by Petrie in the 1920s (Petrie *et al.* 1923: 35).

The entryway between Chambers 1 and 2 was blocked by two box coffins, one atop the other (Coffin 12 atop 11). Both coffins held only bodies (Petrie 1891: 23). Chamber 2 held the most coffins with six in total and a further two infant boxes (fig. 3.12). One of the limestone roofing blocks in this chamber had collapsed prior to Petrie's excavations, which he explained had 'somewhat crush[ed]' the coffins in Chamber 2 (Petrie 1891: 21). Along the north wall of Chamber 2 lay anthropoid Coffin 6 with the two gabled-roof infant boxes in front of it. Coffin 6 contained only one body, and Petrie observed that the preservation of the infant boxes was so poor that they could not be salvaged (Petrie 1891: 22).

Perpendicular to Coffin 6, six coffins lay north-south, stacked two high. Coffin 4, which lay beneath Coffin 8 along the west wall of Chamber 2, was crudely painted and contained a serpentine vase and a steatite kohl pot within a basket (Petrie 1891: 22). Coffin 8 held a small basket, within which a wooden kohl stick, scarabs (**785**, **786**), a plaque (**776**), fruit, and a Phoenician vase were found (Petrie 1891: 23). At the opposite end of the room, along the east wall, lay Coffin 9 atop Coffin 5. Coffin 5 contained five or six bodies, as well as a walking stick, throw stick, headrest, ceramic and alabaster vases, and a black limestone kohl pot. One of the bodies even wore hollow gold earrings (Petrie 1891: 22).[67] Coffin 9 also contained a headrest, a basket containing beads, a cowroid (**806**), another basket containing a wooden kohl pot and stick, and five seal amulets (**794**, **795**, **803**-**805**). Six bodies were buried within Coffin 9 (Petrie 1891: 23).

In the middle of the chamber, between Coffins 4 and 5, lay Coffins 7 and 10. Coffin 10 was anthropoid in shape and contained one body and one scarab (**777**) (Petrie 1891: 23). Coffin 7, which lay beneath the anthropoid Coffin 10, was arguably the most significant burial in the tomb and contained the burial of Lady Maket among other bodies. The coffin contained a hollow gold scarab (**812**), an aurian silver scarab[68] in a gold bezel (**792**), and a silver rectangular ring (**791**), all inscribed with the epithet 'the lady of the house, Maket' (fig. 3.13), for whom the tomb was named. Another scarab ring (**790**) was found within Coffin 7, as well as faience earrings, a bronze mirror, kohl stick, ivory inlaid headrest, imported vases, and a musical instrument (Petrie 1891: 22).

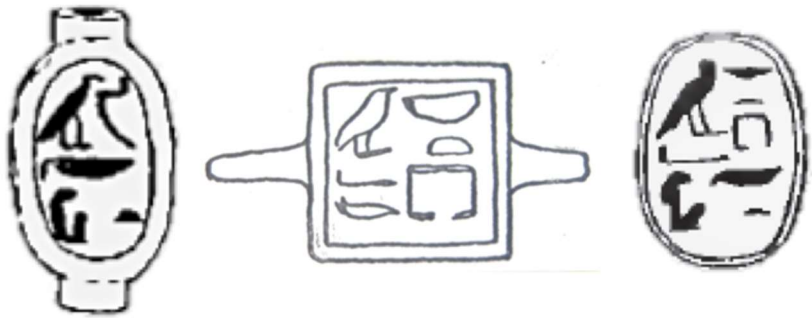


Figure 3.13: Seal amulets (left to right) **792**, **791**, and **812** all inscribed with the name of the lady, Maket, for whom the tomb was named by the excavators (Petrie 1891: pl. XXVI, figs. 8-10).

[67] Ashmolean Museum AN1890.797.
[68] XRF analyses of scarab **792** and ring **791** were conducted in the 1980s by Gale and Stos-Gale (1981) alongside other silver objects at the Ashmolean. See Chapter 4.4 for further discussion.

In the southwest corner of Chamber 2, Petrie found a 'heap' of objects, which he believed belonged to the earlier burials within Chamber 2 that had been moved aside and swept off the lower coffins when the upper coffins (Coffins 8-10) were deposited. This pile of objects contained a small wooden box with three scarabs (**779**, **784**, **788**), a plain glass cowroid, and close to one hundred beads inside. Petrie also found faience lions' heads and beads, alabaster, serpentine, and faience vases, as well as other imported vessels. A bronze knife, pumice, and whetstones were also discovered alongside more scarabs (**781**, **783**, **787**, **796**), a jasper prism (**807**), and decomposing organic materials (Petrie 1891: 22-23).

The innermost chamber, Chamber 3, held a further three box coffins. Coffin 3 sat atop Coffin 1 at the end of the chamber along the eastern wall and Coffin 2 lay in front, nearer to the hall separating Chambers 2 and 3. Coffin 2 and 3 both contained nothing other than bodies; however, Coffin 2 had a few items resting on top of it, including a broken alabaster jar[69], a faience model of a cow's horn, a quadruple kohl pot, and a glass bead. Coffin 1 contained two scarabs (**801**, **802**), a cowroid (**798**), a bird scaraboid (**799**), a frog scaraboid (**800**), and a number of beads. On the ground of Chamber 3, Petrie found Egyptian pottery and a broken chair in the southwest corner (Petrie 1891: 22).

Petrie (1891: 21) noted that he himself was the only person who moved any of the artefacts out of the tomb and 'record[ed] all the things as they lay'. Although the baskets had rotted through, Petrie ensured to keep the beads from each context together (Petrie 1891: 21-22). He described the burials as successive due to the fact that the burial goods in the tomb had been shifted to make room for later burials, and he numbered the coffins from 1 to 12 in what he believed to be chronological order (Petrie 1891: 21; Hankey and Tufnell 1973: 104). Petrie posited that the dates of deposition of the coffins date from the oldest in the innermost chamber (Chamber 1) with Coffin 1, up to Coffin 12, deposited nearly a century later (Petrie 1891: 22-23). Petrie (1891: 22-24) erroneously dated the tomb to the Nineteenth to Twentieth Dynasties, based solely on the fact that Coffin 1, which he believed to be the earliest, contained black and green beads that he dated to the reign of Ramesses II. He noted that the scarabs date to the Eighteenth Dynasty (and one he assigned to the Twelfth), which he believed to be a 'curious feature' but remedied this by stating that they were all heirlooms (Petrie 1891: 24). While there is abundant evidence of the keeping of scarabs, especially royal name scarabs, as heirlooms[70], the fact that all the scarabs are clearly from the Eighteenth Dynasty and that the rest of the objects in the tomb also date to the Eighteenth Dynasty[71], renders Petrie's identification of the

[69] Petrie (1891: 22) posited that the alabaster jar was broken when Coffin 3 was moved into the chamber, as the small jar likely fell off Coffin 2 when placing Coffin 3 atop Coffin 1.
[70] See Chapter 3.2.2.2 for an example of a royal name scarab heirloom (**238**). Furthermore, this practice has been well documented by Ben-Tor (1994; 2004a: 28; 2004b; 2007: 7, 125), Tufnell (1984: 151, footnote 4), and Keel (1995: 247).
[71] The exception being a stone vase from Coffin 5 that is Twelfth Dynasty in shape and may be an heirloom (Hankey and Tufnell 1973: 108). For further details regarding the dating of each of the artefacts in the tomb, see Hankey and Tufnell (1973).

Tomb of Maket as Ramesside incorrect[72] (Hankey and Tufnell 1973: 108-110). Rather, Tufnell and Hankey (1973: 108) insisted that the tomb was first used around 1525 BCE, in the reign of Thutmose I, and was sealed after its final burial in the reign of Thutmose III, no later than 1450 BCE.

3.2.4.2. Seal Amulets from Lahun (Tomb of Maket) (nos. 776-815 in Appendix D)

Forty scarabs, scaraboids, and cowroids were found in the Tomb of Maket at Lahun. In all, Petrie discovered twenty-three scarabs, eight cowroids, eight scaraboids, and one ring. This assemblage of seal amulets, the majority of which were bequeathed to the Ashmolean Museum, were deemed of such importance as a secure find of early Eighteenth Dynasty scarabs that Tufnell (1984: 23) used the assemblage as a chronological terminus for her study of early second millennium BCE scarabs. Tufnell (1984: 23-24) viewed the scarabs as a bridge from the latest royal name scarabs found at Tell el-'Ajjul[73] to early Eighteenth Dynasty royal name scarabs.

The majority of the seal amulets from the Tomb of Maket were of steatite (at least 50%[74]), while seven were of faience, and two of frit. The final seal amulets of known material include a cornelian cowroid (**798**) and scarab (**805**), a green jasper prism (**807**) and scarab (**815**), a red jasper cowroid (**813**), a glass frog scaraboid (**800**), and three seal amulets of precious metal (see below). The cornelian scarab (**805**) and frit cowroid (**814**), as well as a scarab (**808**) of unknown material, were all carved with an 'X' on the base. This motif is almost solely seen on cornelian and red jasper Eighteenth Dynasty scarabs (Boschloos 2012b), which may denote that scarab **808** was also made of cornelian, although it could be an outlier like cowroid **814**.[75]

All of the seal amulets in Coffin 7 contained precious metal. A gold scarab (**812**), a silver scarab in a gold mount (**792**), a silver ring (**791**), and a steatite scarab with a gold mount (**790**) were all found associated with the Lady Maket. All these seal amulets, barring the steatite scarab, bear the name of Maket. The steatite scarab is instead inscribed with *Jmn-R'*.

The southwest 'heap' in Chamber 2 contained three royal name seal amulets. The jasper prism (**807**) was inscribed with the names of Thutmose II, whereas scarabs bearing the name of his predecessor Thutmose I (**796**) and that of his successor Thutmose III (**783**) were also found in the 'heap'. The presence of seal amulets bearing the names of the three kings in the southwest 'heap' leads to a conclusion that the lower burials in Chamber 2 likely dated from all three reigns. A bird scaraboid (**799**) from Coffin 1 also bears the throne name of Thutmose III, which means that the burial in Coffin

[72] It must be stated that after von Bissing (1897) challenged Petrie's dating of the Tomb of Maket, Petrie reconsidered and dated the tomb to the reign of Thutmose III (Hankey and Tufnell 1973: 103).
[73] Bearing the names of Auserre Apepi (also known as Apophis) from the Fifteenth Dynasty and Amenhotep I from the beginning of the Eighteenth Dynasty, the predecessor of Thutmose I (Tufnell 1984: 23-24).
[74] The material of two of the scarabs is unknown (**808**, **809**).
[75] See Chapter 5.2.2.4 for further discussion of the 'X' motif.

1 could not have been the first deposited. Another scarab (**810**) bearing the name of Thutmose III was discovered in the outer chamber (Chamber 1). Tufnell noted that the seal amulets were distinctly Eighteenth Dynasty in surface characteristics and size (Hankey and Tufnell 1973: 107-108; Tufnell 1984: 106-107).

3.2.5. Sedment (Tombs 1723 and 1728)

3.2.5.1. Archaeological Context & Excavation History

The cemeteries of Sedment are located roughly 110 kilometres south of Cairo near the site of Gurob (see below) in Middle Egypt (Petrie and Brunton 1924a: 1) (fig. 3.11). This site was first explored by Lepsius in the 1840s (Franzmeier 2017: 16-17), Naville in the 1890s (Naville 1894: 11-14; Franzmeier 2017: 17-19), and Currelly in the early 1900s (Currelly 1905: 32-33) but was not extensively excavated until 1920. Petrie and Brunton excavated the site on behalf of the British School of Archaeology in Egypt from 1920 to 1921 and noted that the cemetery was roughly four to five kilometres long in the desert overlooking the Fayum Oasis (Petrie and Brunton 1924a: 1). Hundreds of tombs mostly ranging in date from the Old Kingdom to the mid-Eighteenth Dynasty were discovered, as well as a few outlying tombs from the Ramesside Period and after (Petrie and Brunton 1924a: 1; Franzmeier 2017: 2-3).

Unfortunately, many of the tombs of Sedment were disturbed to a degree (Naville 1894: 11-14; Currelly 1905: 32-35; Blackman and Johnson 1910: 10-12; Petrie and Brunton 1924a: 1; Franzmeier 2017: 16-25); however, Tombs 1723 and 1728 still retained their grave goods and can be securely dated to the early Eighteenth Dynasty and thus were included in the present study to demonstrate groupings of seal amulets from Middle Egypt.

Tombs 1723 and 1728 were both found in cemetery G, the largest cemetery of Sedment. This cemetery had two main phases, one in the First Intermediate Period to early Middle Kingdom, and the second from the late Second Intermediate Period to the mid Eighteenth Dynasty. Both Tombs 1723 and 1728 date securely to the late early to mid-Eighteenth Dynasty (Petrie and Brunton 1924b: 26; Franzmeier 2017: 1459-1468; 1477-1482). It has been noted that no tombs of elite persons were identified in this cemetery, as no evidence of names or titles was in the inscriptions (Seidlmayer 1990: 247; Franzmeier 2017: 14). However, some of the tombs still had quite a wealth of grave goods (Tomb 1723, for example) and thus they likely had some resources available to them.

Tomb 1723 was described by Petrie and Brunton as ‘a fine group, well dated to Tehutmes III’ (Petrie and Brunton 1924b: 26) based on the style of scarabs, particularly **830**, **835**, and **838**, as well as the presence of a faience ‘marsh’ bowl.[76] No other information, besides a tomb register, is given in the

[76] E.35.1921 at the Fitzwilliam Museum.

excavation reports about this tomb; however, the dig notebooks and tomb cards provide further elaboration. Tomb 1723 was lightly disturbed; however, the grave goods and coffin all remained in the tomb. These grave goods include a bronze mirror, a razor, an alabaster bowl and kohl pot, faience kohl pots, a bag of galena (likely to be used as cosmetics), five baskets, and 14 seal amulets (Vassilika 1995: 50-51; Franzmeier 2017: 1459-1460, 1850). The tomb card lists the burial as that of a woman; however, Franzmeier (2017: 1461), noted that no justification behind the sexing of this individual is listed; it could be due to the skeletal remains (which were not discussed in the report or on the tomb card) or perhaps due to the grave goods, which the excavators deemed feminine.

The seal amulets were found in three baskets in the grave. Basket 2 held one steatite scarab (**828**) and basket 5 held another (**831**). Basket 3 had a total of 12 seal amulets within, six of which were found fixed together as though on a bracelet. Unfortunately, it is unclear from the tomb card and notebooks which ones were found on the bracelet (Franzmeier 2017: 1462). Franzmeier (2017: 1463) dates this tomb, based upon its grave goods securely to the joint reign of Hatshepsut and Thutmose III.

Tomb 1728 was also discovered in cemetery G; however, it was not discussed in the Petrie and Brunton site report (1924b: 25-26). The information from the tomb card and notebook stated that this burial was more modest than 1723, as the deceased was simply wrapped in a reed mat, rather than placed in a coffin. There were also far fewer grave goods; twelve seal amulets were found on the right wrist of the deceased and some beads of cornelian, 'fine blue', and shell were recorded (Franzmeier 2017: 1477-1478). Franzmeier dated this tomb to the early to mid-Eighteenth Dynasty, either just before the reign of Thutmose III or during his reign. As with tomb 1728, the excavators have listed the sex as female; however, there is again no justification as to why (Franzmeier 2017: 1461, 1477).

3.2.5.2. Seal Amulets from Sedment (Tombs 1723 and 1728) (nos. 816-841 in Appendix D)

Tomb 1723 contained 12 scarabs, one cowroid (**837**) and one frog scaraboid (**838**). All of the seal amulets from this tomb were bequeathed to the Cambridge Fitzwilliam Museum. Five baskets were found within the tomb, three of which contained the seal amulets. Basket 2 held one faience scarab (**828**) which depicted a falcon, flail, and uraeus (Design 9H3; see Chapter 5.2.2.3). The steatite scarab

Figure 3.14: Scarab **833** depicting a bound captive from Tomb 1723 at Sedment (E.28.1921, © Fitzwilliam Museum).

(**831**) in Basket 5 also bore a typical early Eighteenth Dynasty base design, as well as body features. The ten scarabs, one scaraboid, and one cowroid from Basket 3 are all typical examples of early Eighteenth Dynasty seal amulets in both their body features and base designs. Two of the scarabs (**832**, **835**) are inscribed with the name of Amun-Re, and three cornelian examples (**839**, **840**, **841**) bear the linear star or 'X' design (1B2) that also dates to the early Eighteenth Dynasty (Boschloos 2015). Scarab **833** has the typical early Eighteenth Dynasty body features but uniquely bears a figure of a bound captive upon its base (fig. 3.14). Basket 5 also contained one uninscribed cornelian frog scaraboid (**838**) and one 'blue glass' (perhaps a blue frit) cowroid (**837**).

The twelve seal amulets from Tomb 1728 were all found at the right wrist of the deceased. This tomb group is now at the Penn Museum in Philadelphia. One of the seal amulets was a cowroid (**827**), whereas the rest were all scarabs. Scarab **823** is also a cornelian example of the 1B2 base design (Boschloos 2015; see Chapter 5.2.2.4). Most of the scarabs in this group display typical early Eighteenth Dynasty features (such as the lunate head and lined backs); however, a couple appear to have late Second Intermediate Period features (such as the 'Shesha' back of **825**).

3.2.6. Gurob (Tombs 26 and 27)

3.2.6.1. Archaeological Context & Excavation History

The site of Gurob is comprised of an ancient town and multiple cemeteries in Middle Egypt on the edge of the desert at the mouth of the Fayum Oasis to the north of Sedment (Thomas 1981: 1-2) (fig. 3.11). The town itself started as a small settlement in the early Eighteenth Dynasty before expanding as a large town in the mid-Eighteenth Dynasty during the reign of Thutmose III (Thomas 1981: 4). At this later date, the town had the ancient name of *Mi-wer* and housed the royal harem (Thomas 1981: 1). The Fayum was particularly popular during the New Kingdom as a destination for royal and upper-class sport fishing and fowling (Thomas 1981: 1).

The site contained evidence of a large late Eighteenth Dynasty town, a small early Eighteenth Dynasty village south of it, and cemeteries dating from the 'Archaic Period', Old Kingdom, and First Intermediate Period with the main cemetery dating to the New Kingdom (Thomas 1981: 4). There was also evidence of a wide variety of craftwork on site, likely dating to the late Eighteenth Dynasty and Ramesside Period, including leather-working, stone-working, metal-working, carpentry, textile manufacture, and a glazed object industry, including evidence of scarab manufacture (Thomas 1981: 9-11).

The site was first excavated by Petrie in the late 1880s; however, he was dividing his time between multiple sites in the region and admitted in his autobiography that due to this, as well as an illness, he did not publish these excavations in the detail he had wished (Petrie 1932b: 118-119). This is evident

as the extent of these early excavations is unclear from the publication (Petrie 1891: 15-21), which may have led to later archaeologists accidentally re-excavating these tombs (Thomas 1981: 3-4). During the early 1900s, Currelly and Loat attempted a more thorough excavation of the site, focusing on the cemeteries. They found a number of New Kingdom burials; however, as Loat was a zoologist, they focused upon the animal and fish cemeteries of the site (Currelly 1905; Loat 1905; Thomas 1981: 2-3).

In the years since Petrie's first excavations of Gurob, the site had fallen prey to a great amount of illicit digging. When Brunton and Engelbach commenced their season of work in 1920, they observed that the mudbrick temple discovered in 1904 had been completely destroyed due to *sabbâkhîn* and much of the town also gone. They did systematically survey the cemeteries of Gurob, in which they viewed further destruction with around half of the burials looted (Brunton and Engelbach 1927; Thomas 1981: 3-4).

Brunton and Engelbach excavated a total of 313 graves, containing a total of 360 bodies (Thomas 1981: 5). The cemeteries contained the burials predominately of the lower classes and some of the middle class with many only buried in a simple reed mat or brick coffin (Thomas 1981: 20). Furthermore, most of these graves date to the late Eighteenth and Nineteenth Dynasties and many were disturbed. However, Tombs 26 and 27 remained untouched by illicit digging until their discovery by Brunton and Engelbach, date to the early Eighteenth Dynasty and may have been the burials of

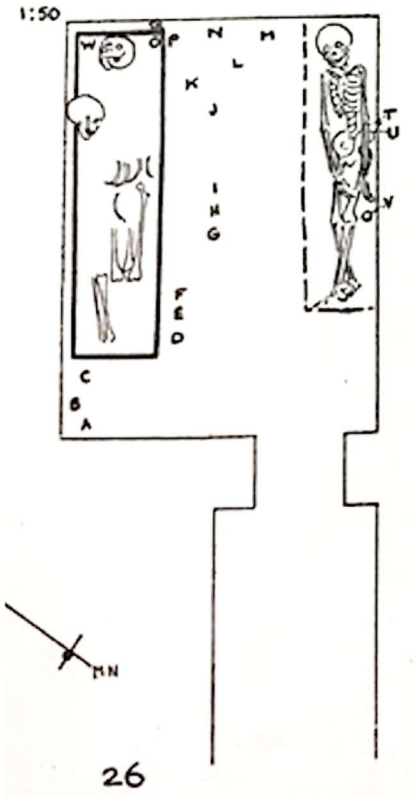


Figure 3.15: The plan of Tomb 26 at Gurob (Brunton and Engelbach 1927: pl. XX).

those living at the early village south of the main town site. Additionally, these tombs seem to have contained the burials of 'middle class and professional people' (Thomas 1981: 21).

Tomb 26 (fig. 3.15) was a brick-lined tomb that had been plastered white with arched chambers that contained four bodies in wooden coffins. When Brunton and Engelbach discovered this tomb, they found the entry bricked up and plastered over, which confirmed that it had not been disturbed since the final burial. The tomb contained jewellery, alabaster vessels, seal amulets, and a faience bowl (Thomas 1981: 21). Due to the poor preservation of the wooden coffins, the fourteen seal amulets had fallen to the floor of the tomb and had to be extracted through sieving (Brunton and Engelbach 1927: 10); therefore, it is not possible to know on whom each seal amulet was placed. The seal amulets and the tomb itself were dated by the excavators to the reign of Amenhotep I due to his name inscribed on the base of cowroid **854** (Brunton and Engelbach 1927: 10; Thomas 1981: 21).

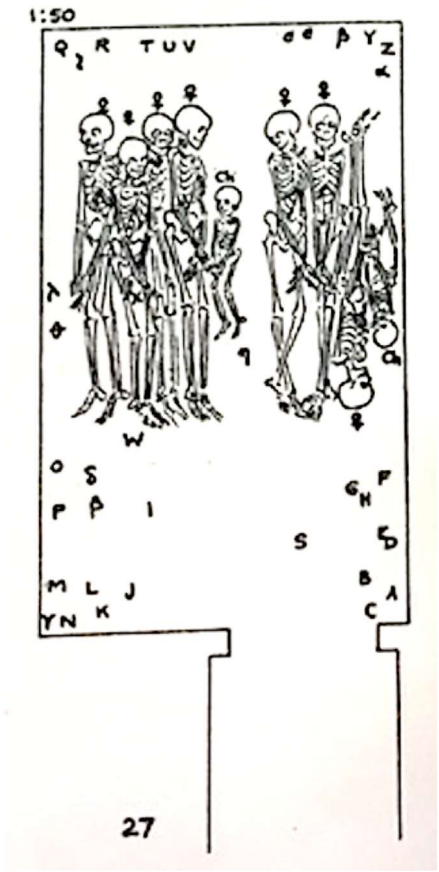


Figure 3.16: The plan of Tomb 27 at Gurob (Brunton and Engelbach 1927: pl. XX).

Tomb 27 (fig. 3.16) was of a similar construction to 26 and also contained a family; however, there were a total of nine bodies buried within it, including two children (Thomas 1981: 21). The previously undisturbed tomb (visible due to the plastered and bricked entry) had been discovered when the excavators accidentally fell through the roof into the burial chamber, which then muddled the positions of the small finds (Brunton and Engelbach 1927: 10). The grave goods found within the tomb include pottery 'typically of the Eighteenth Dynasty' (Brunton and Engelbach 1927: 10), stone vessels,

jewellery, a mirror, and twenty-one seal amulets (Thomas 1981: 21). This tomb has also been dated by the excavators to the reign of Amenhotep I, and they also believed that those buried in Tombs 26 and 27, as well as a third similar tomb (Tomb 20), were all from the same extended family (Brunton and Engelbach 1927: 10).

3.2.6.2. Seal Amulets from Gurob (Tombs 26, 27, and 75) (nos. 842-876 in Appendix D)

Thirty-five seal amulets were discovered during the Brunton and Engelbach excavations of Tombs 26 and 27 (Brunton and Engelbach 1927: pls. XXI-XXIII).

The seal amulets of Tomb 26 now reside in Brussels at the Royal Museums of Art and History. The assemblage includes seven scarabs (including one on a ring), six cowroids (including one on a ring), and a round scaraboid (Brunton and Engelbach 1927: pl. XXIII). Cowroid **854** is inscribed with the praenomen of Amenhotep I, *Ḏsr-k3-R‘*. The rest of the seal amulets from this tomb display either late Second Intermediate Period features (such as the ‘Shesha’ back, or the ‘Hyksos sides’ of scarab **842**) or those of the early Eighteenth Dynasty (e.g. lunate heads and lined backs). The presence of Second Intermediate Period scarabs has been explained by the excavators as heirlooms passed down in the family (Brunton and Engelbach 1927: 10).

Tomb 27 contained twenty-one seal amulets; at least seventeen of which reside at the Hunterian Museum in Glasgow. Fifteen scarabs were found, including six on rings, three cowroids (one of which was on a ring) and three scaraboids. The scaraboids were an uninscribed faience cartouche plaque (**876**), a rectangular plaque of steatite inscribed on both sides with typical Eighteenth Dynasty motifs (**856**), and round scaraboid (**867**). A number of the scarabs appear to be heirlooms from the Second Intermediate Period with ‘Shesha’ backs and even an example bearing the *anra* formula (**864**).

However, both the pottery and other seal amulets date clearly to the early Eighteenth Dynasty. Cornelian scarab **875** bears the linear star or ‘X’ base design (1B2), which has been dated to this period (Boschloos 2015; see Chapter 5.2.2.4).

3.2.7. Gebel el-Zeit

3.2.7.2. Archaeological Context & Excavation History

Gebel el-Zeit is part of a mountain range located along the Red Sea Coast at the Gulf of Suez, roughly fifty kilometres south of Ras Gharib and eighty kilometres north of Hurghada (fig. 3.17) (Castel and Soukiassian 1989: 7). Gebel el-Zeit, literally ‘mountain of oil’ in Arabic, is aptly named, as it was one of the first places exploited for oil within Egypt (Castel and Soukiassian 1989: 8, fn. 1; Shaw

1993: 292). In ancient pharaonic times, the site was instead visited for its source of galena, a metal that was used to produce the black kohl cosmetic (Castel and Soukiassian 1989; Shaw 1993: 292).[77]

Gebel el-Zeit was surveyed and excavated during five seasons from 1982 to 1986 by the Institut Français d'Archéologie Orientale. It is rather remarkable that the site had not been found until 1977, just prior to IFAO's work, as the area continues to be a source of oil and is currently managed by a French petroleum company (Mey *et al*. 1980: 299-300). This is likely due to the site being difficult

Figure 3.17: Satellite view of the Gulf of Suez showing the location of Gebel el-Zeit (on the peninsula).

to access as it is on the top of a steep mountain range (Castel and Soukiassian 1989: 8; Shaw 1993: 292).

[77] Galena can also be easily smelted into lead with a simple charcoal or wood fire (Ogden 2000: 168), however, the excavators only noted the use of the Gebel el-Zeit galena for kohl (Castel and Soukiassian 1989; Shaw 1993: 292).

Along with offering a valuable source of information regarding small-scale mining and quarrying in pre-Ptolemaic Egypt[78] (Castel and Soukiassian 1989; Aston et. al 2000: 5), Gebel el-Zeit also provides a large assemblage of inscribed material, predominantly from the small Eighteenth Dynasty sanctuary at Site 1 (Régen and Soukiassian 2008).

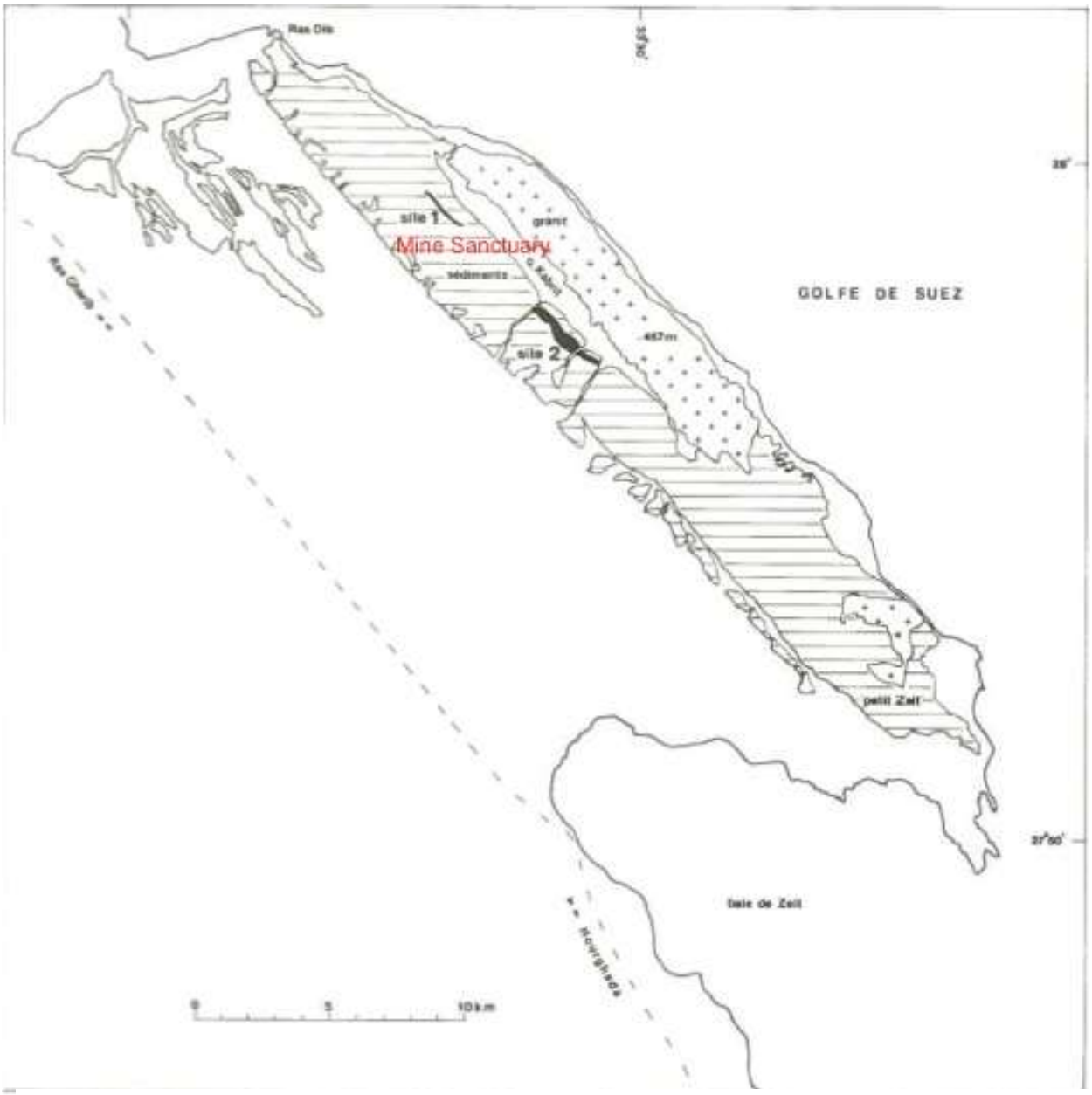


Figure 3.18: Map showing the location of Site 1 and Site 2 of Gebel el-Zeit overlaid with the approximate location of the Site 1 Mine Sanctuary (Castel and Soukiassian 1989: 7).

Gebel el-Zeit was divided into two relatively contemporaneous sites by the excavators (fig. 3.18). Site 1 is located toward the north end of the *gebel* in a long and narrow valley of the Wadi Kabrit and is comprised of over two dozen mines (Shaw 1993: 293). The majority of the mining activity at Site

[78] The first published volume on Gebel el-Zeit (1989) by IFAO focused nearly solely on the ancient galena mines and the mining techniques utilised there. They have discovered that this mining was done on a fairly small-scale, predominantly in the Second Intermediate Period and first half of the Eighteenth Dynasty and constituted a different type of mining than that used during the Ptolemaic Period and afterwards (Castel and Soukiassian 1989: 14-15).

1 was located in the southern region along with evidence of occupation, in the form of small dry-stone huts built over abandoned mine shafts, and an Eighteenth Dynasty sanctuary (Castel and Soukiassian 1989: 9, 29-31; Régen and Soukiassian 2008: 1).

Figure 3.19: Plan of the Mine Sanctuary of Gebel el-Zeit. Each dot represents an excavated seal amulet, visibly clustered along the northern wall. The small 'awning area' was located in the northwest corner as indicated by the circular postholes (Régen and Soukiassian 2008: plan 8).

The sanctuary (fig. 3.19) was built during the reign of Amenhotep III over the entrance of a Second Intermediate Period to early Eighteenth Dynasty mineshaft that went out of use at the end of the reign of Thutmose III. The sanctuary was a small enclosure measuring only 5.5 by 3 metres with a maximum original wall height of one metre. The sanctuary was roughly rectangular and built of a dry-stone technique (Castel and Soukiassian 1985: 285). This mining sanctuary was predominantly dedicated to the goddess Hathor, the 'mistress of galena', but was also associated with Horus, 'the master of deserts' (Castel and Soukiassian 1985: 292-293; Pinch 1993: 71-77). Within the sanctuary,

there was a small 'awning' area (fig. 3.19) in the northwestern corner that was visible by the four postholes (three of which still contained wooden remains of the poles at the time of excavation) in a roughly square shape; this area has been described by the excavators as the main place of worship within the sanctuary (Castel and Soukiassian 1985: 285; Régen and Soukiassian 2008: 1). Dressed stones were erected in the northeast corner as well as in the centre of the southern half of the sanctuary; these stones are also believed to have been consecrated areas, as evidenced by the concentration of votive objects found near them, especially the stone in the northeast corner (fig. 3.19).

In the late Eighteenth Dynasty, many votive deposits dating from the late Middle Kingdom to the mid Eighteenth Dynasty that had been presumably left by the earlier miners were discovered at the time of the construction of the sanctuary. The discoverers gathered the stelae, seal amulets, jewellery, and other votive objects and re-deposited them within the new sanctuary (Castel and Soukiassian 1985: 286; Régen and Soukiassian 2008: 2). The votive objects discovered were primarily divine statues, stelae (see Régen and Soukiassian 2008: 9-47 for the stelae), and female figurines made of terracotta that were sometimes wrapped in fabric with beads and seal amulets attached (Castel and Soukiassian 1985: 286; Castel *et al*. 1985: 19-20, fig. 13; Pinch 1993: 201-203). These deposits of ex-votos were originally concealed under stones similar to foundation deposits[79] but were later

Figure 3.20: Excavator's photograph of the discovery of the Stela Deposit outside the northwest corner of the sanctuary (Régen and Soukiassian 2008: fig. 3).

disturbed by landslides due to heavy rain[80]; these votive objects were then gathered and re-deposited during the reign of Amenhotep III by those constructing the sanctuary (Castel and Soukiassian 1989: 286; Régen and Soukiassian 2008: 131). The majority of these objects, including 68% of the total seal amulets from the site, were discovered clustered near the northern wall of the sanctuary (fig. 3.19).

[79] See above, Chapter 3.2.1 for an example of a temple's foundation deposits.
[80] Castel and Soukiassian (1989: 8) noted that while Gebel el-Zeit is generally in a very dry climate, rare, but violent torrential rains do occur.

One of the most notable 're-deposits' is that of the stelae. Between the northern wall and the rock face behind, a deposit of stelae, as well as seal amulets and figurines, were tucked away in the late Eighteenth Dynasty (fig. 3.20). The stelae date from the Middle Kingdom to the Second Intermediate Period but were hidden alongside scarabs and seal amulets from the late Second Intermediate Period and Eighteenth Dynasty.[81] The object with the latest date in this deposit is a scarab bearing the name of Amenhotep III and the excavators confidently date the re-deposition of the stelae and seal amulets to the late Eighteenth Dynasty (Castel and Soukiassian 1985: 286-288). Of note, is the stela naming Minemhat, the nomarch of Koptos at the end of the Second Intermediate Period (Castel and Soukiassian 1985: 292). Koptos, located roughly forty kilometres north of Thebes, was the traditional starting point for many expeditions at sites on the Red Sea coast (Castel and Soukiassian 1985: 292; Sidebotham and Zitterkopf 1995: 40; Hikade 2006: 154) and this stela may link the Gebel el-Zeit galena mining expeditions to the Theban region for not only the Eighteenth Dynasty (when it was the capital of the entirety of Egypt), but also for the Second Intermediate Period, when the Thebans only controlled a small southern territory (Bourriau 2000).

Site 2 is much larger than Site 1 and contained more mining activity with hundreds of mine shafts and two small 'sacred enclosures' but has far less evidence of habitation than Site 1 (Shaw 1993: 293; Castel and Soukiassian 1989: 9; Régen and Soukiassian 2008: 1). Furthermore, only Site 1 is relevant to the present study, as only a solitary seal amulet was discovered at Site 2 that dates to the late Middle Kingdom or Second Intermediate Period (Régen and Soukiassian 2008: 279).[82] In fact, out of the total 544 published and inscribed artefacts from Gebel el-Zeit, only five came from Site 2 (Régen and Soukiassian 2008: 1).

3.2.7.2. Seal Amulets from Gebel el-Zeit (nos. 358-775 in Appendix D)

A staggering 419 scarabs, cowroids, scaraboids, and bifacial plaques were discovered at Gebel el-Zeit by the 1980s excavations under IFAO. All but one of these seal amulets were found in, around, and under the Eighteenth Dynasty sanctuary at Site 1 built during the reign of Amenhotep III. The solitary scarab from Site 2 was not included in the present study due to it predating the present study and not being a part of a larger assemblage.

These seal amulets constitute successive votive deposits largely dating from the early to mid-Eighteenth Dynasty (Pinch 1993: 75), but in total range from the Second Intermediate Period to the end of the Eighteenth Dynasty. These seal amulets were gathered and re-deposited during the building of a sanctuary in the reign of Amenhotep III and a few additional seal amulets from the late

[81] Only four or five of the eighteen seal amulets in the Stela Deposit date to the Second Intermediate Period (Régen and Soukiassian 2008: 140-146).
[82] This scarab is briefly discussed in Chapter 5.2.2.5.

Eighteenth Dynasty were also deposited in the sanctuary. These seal amulets were included in the present study as a large assemblage with fairly secure context (albeit from a long chronological span). They have been used to bolster the conclusions derived from the seal amulets from the other sites in the study, as well as in discussions about the distribution and movement of the seal amulets, as they were deposited by itinerant miners, likely from the Nile Valley (Castel and Soukiassian 1989: 135).

Sixty-eight percent of the total seal amulets (**358**-**643**) were discovered in the northern area of the sanctuary, predominantly in the northeast corner and around the northwest corner, including the Stela Deposit (figs 3.19 and 3.20). A full explanation of where each seal amulet was discovered is not particularly useful for dating, as all but the seal amulets that were discovered beneath the sanctuary (**718**-**775**) were re-deposited in their findspots in the late Eighteenth Dynasty (Régen and Soukiassian 2008: 131).

The royal name seal amulets accord to the findings that the majority of the seal amulets date to the early to middle Eighteenth Dynasty (Pinch 1993: 75). In chronological order[83], there are four scarabs bearing the name of the Queen Ahmose Nefertari[84], ten seal amulets with the name of Amenhotep I[85], three with the name of Thutmose I[86], seventeen with the name of Thutmose III[87], four with the name of Amenhotep III[88], one with the name of Queen Tiye[89], and a final scarab bearing the name of Ay[90]. Another scarab (**435**) possibly bears the name *ʿnḫ=s-(n)-Jmn*, the daughter of Amenhotep III and wife of Tutankhamun. However, the scarab may also merely be a cryptographic writing of the god Amun with an ankh and *s* hieroglyph (Régen and Soukiassian 2008: 160).

At least fifty-four of the seal amulets from Gebel el-Zeit bear inscriptions that include the god Amun or Amun-Re. On the other hand, only eleven bear any depiction of the goddess Hathor[91], the patron deity of the galena mines and to whom the sanctuary was dedicated. The other Eighteenth Dynasty seal amulets bear geometric, floral, faunal, and amuletic (including the red crown, ankhs, *djed* pillars, and more) motifs.

The forty-nine Second Intermediate Period seal amulets from Gebel el-Zeit were included in the present study because they demonstrate a largely unbroken link from the heavily studied Second

[83] Chronological order of the reigns of the royal names on the scarabs. This does not necessarily mean that the manufacture of these seal amulets corresponds to the reigns, as it has been shown that royal name scarabs can be produced posthumously (see Chapter 5.2.3).
[84] Seal amulets **407**, **670**, **696**, and **752**.
[85] Seal amulets **394**, **418**, **446**, **538**, **546**, **579**, **613**, **683**, **753**, and **754**. Some of these seal amulets may bear the name of another Amenhotep as they were simply inscribed with the nomen *Jmn-ḥtp*. However, they are believed to be of Amenhotep I due to their early Eighteenth Dynasty characteristics (see Chapter 5.2.3.2).
[86] Seal amulets **575**, **576**, and **682**.
[87] Seal amulets **374**, **405**, **469**, **511**, **512**, **530**, **535**, **555**, **569**, **580**, **617**, **646**, **659**, **662**, **678**, **767**, and **768**.
[88] Seal amulets **403**, **521**, **522**, and **675**.
[89] Scaraboid **489**.
[90] Scarab **506**.
[91] Seal amulets **478**, **511**, **535**, **556**, **578**, **624**, **665**, **667**, **695**, **705**, and **722**.

Intermediate scarabs of Egypt to the as of yet un-comprehensively studied seal amulets of the Eighteenth Dynasty.[92]

Two of these Second Intermediate Period scarabs appear to bear the names of kings of the period. Scarab **481** bears the name *Sw3ḏ-n-R*‘, whose name was also found inscribed on a faience sherd underneath the sanctuary (Régen and Soukiassian 2008: 67-68, 175). While little is known about this king whose nomen is Nebiryerau, he is noted to be a Theban king with a possible seventeen-year reign from the Second Intermediate Period (Ben-Tor 2007: pl. 49; Quirke 2004: 176-178). The other royal name scarab (**429**) bears the name *‘3-wsr-(R’)*, possibly translating to Auserre, the praenomen of the well-known Fifteenth Dynasty king Apophis or Apepi. The presence of a potential Fifteenth Dynasty Hyksos king’s name scarab, as well as a scarab bearing the name of a Theban Seventeenth Dynasty king poses some questions. Primarily, if the mining expeditions travelled out of the Theban region during the Second Intermediate Period and Eighteenth Dynasty, it begs the question as to how a scarab bearing the name of an adversarial king also arrived at the remote site. This query will be addressed in the later discussion (see Chapter 7.1.3).

The seal amulets that were discovered under the late Eighteenth Dynasty sanctuary (**718**-**775**) can be definitively dated with a *terminus ad quem* of the reign of Amenhotep III, when the sanctuary was built above. Overall, the excavators have assigned a *terminus ad quem* of the reign of Ramesses II to the entire site due to the discovery of four rings and two beads inscribed with the ruler’s name (Régen and Soukiassian 2008: 86-87, 127-128, 131)

The excavators did note that the majority of inscribed objects date to an important occupation during the reign of Thutmose III. In fact, they dated nearly 30% of the seal amulets from around or during the king’s reign and a further 15% date to the early Eighteenth Dynasty (Régen and Soukiassian 2008: 131-278).

Therefore, based on the relevant data, Régen and Soukiassian (2008: 131, 133) date the majority of the seal amulets confidently to the Eighteenth Dynasty, with a minority from the Second Intermediate Period and only a few scarabs possibly dating to the beginning of Nineteenth Dynasty (see Appendix D for the dates given for each individual seal amulet).

In conclusion, 876 seal amulets from a number of securely provenanced tombs and deposits at seven sites around Egypt dating to the early Eighteenth Dynasty, as well as the preceding and following

[92] Régen and Soukiassian (2008: 133) noted that their comprehensive catalogues of the scarabs and seal amulets of Gebel el-Zeit did not use any previous scarab typologies (such as that of Tufnell 1984), as they do not chronologically fit the assemblage. The present study aims to partially remedy this issue by amending and adding to Tufnell’s study in order to allow archaeologists in the future to be able to utilise typologies for seal amulets dating to periods outside of the Middle Kingdom and First and Second Intermediate Periods (see Appendices B and C).

periods (late Second Intermediate Period and late Eighteenth Dynasty) have been examined and catalogued in this study as per the methodology outlined in Chapter 2.2.2. An overview was made of the site reports and museum catalogues, which acted as secondary sources of data and provided information regarding the provenances of the seal amulets in the corpus. A detailed examination of the archaeological contexts and excavation history for each site in the study demonstrated the securely dated contexts from which the seal amulets were found.

The material and technology of these seal amulets will be discussed in the following chapter (Chapter 4) and the body features and base designs will be examined (Chapter 5) in order to propose seal amulet workshops for this period (Chapter 6.2).

Chapter Four:
ANALYSIS OF THE MATERIALS AND TECHNOLOGY OF EARLY EIGHTEENTH DYNASTY SEAL AMULETS

In order to accurately ascertain sites, or even the specific location on a site, at which early Eighteenth Dynasty scarabs, scaraboids, and cowroids were being produced, the method of manufacture of each material-type of seal amulet is necessary to comprehend. The manufacture of these objects required infrastructure, such as kilns, and produced waste, all of which have been discovered in the archaeological record at a variety of sites. Alternatively, the lack of archaeological evidence of seal amulet production does not necessarily denote an absence of a seal amulet workshop on a site due to factors such as poor preservation, inadequate recording, or simply having not been excavated yet. However, the presence of such archaeological evidence on a site can strengthen the case for locating seal amulet workshops (Keel 1995: 33-34; Boonstra 2014: 17-27).

Material Used	**Usage in Corpus**
Stone (other than steatite)	34
Steatite	704
Faience	113
Other Vitreous Materials (frit, glass)	17
Precious Metal (as primary material)	3
Other (wood)	1
Unknown Material	4

Table 4.1 Usage of various materials in the present dataset

Steatite was the most popular material for the production of seal amulets during not only the Eighteenth Dynasty (see table 4.1 and figs 4.1 and 4.2), but for the entire history of seal amulet manufacture in ancient Egypt (Keel 1995: 136, see Chapter 4.2). However, throughout Egyptian history, seal amulets were also made of Egyptian faience and frit (Chapter 4.3), semi-precious stones, such as cornelian and amethyst (Chapter 4.1), precious metals (Chapter 4.4) and organic materials (Andrews 1994: 52). Each of these materials were likely chosen by the craftsperson, or possibly the intended owner, due to their amuletic properties, perceived value, or ease of carving (see below).

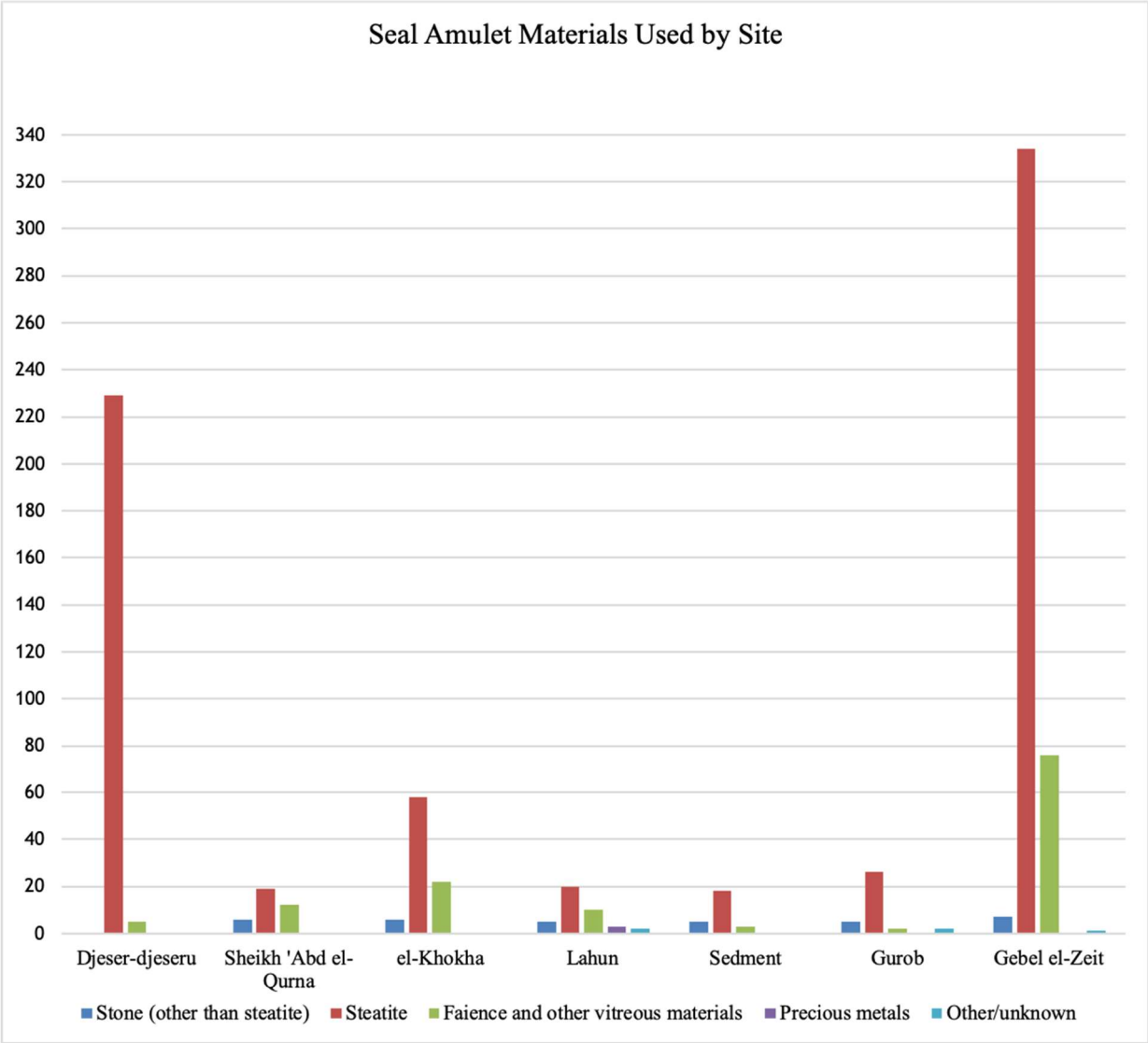


Figure 4.1: Seal amulet material usage by site.

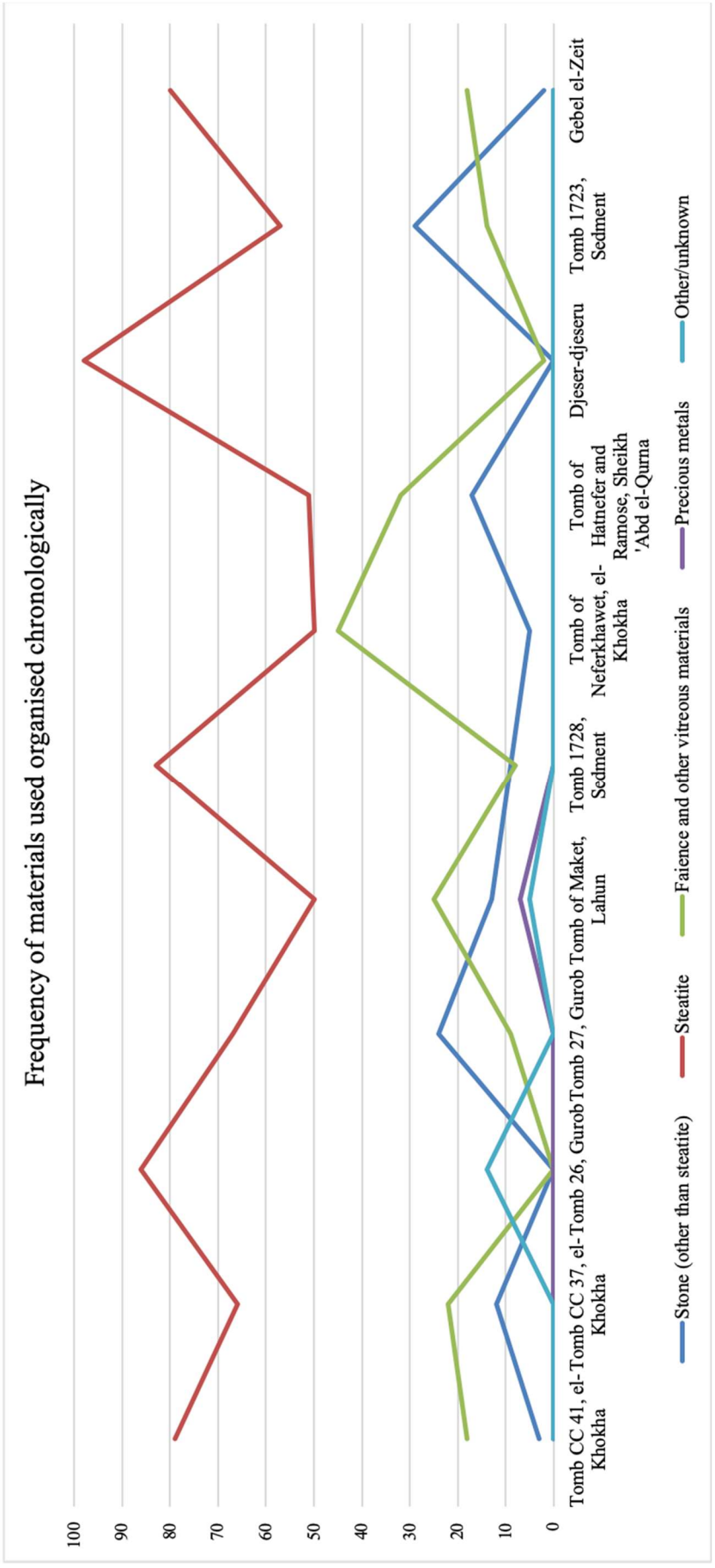


Figure 4.2: The frequency of seal amulet material usage by context arranged chronologically.

4.1 Stone[93]

Only four percent of the corpus is comprised of stone scarabs, scaraboids, and cowroids, not including seal amulets made of steatite, which are dealt with separately.[94] Despite their lack of popularity in comparison with steatite (see Chapter 4.2 below) a wide variety of different hard and semi-precious stones were used throughout the history of seal amulet production (Ben-Tor 1993: 40-42; Andrews 1994: 50, 100-106).

4.1.1. Stone Varieties

The hardness, colour, accessibility, and symbolism of each stone variety were significant factors in the reason for its use in carving seal amulets of the Eighteenth Dynasty. Each type of stone utilised is detailed below in order to attempt to understand why the material was chosen by the ancient craftsperson. There are some difficulties in this approach due to the common occurrence of misidentification of stones by archaeologists and museum personnel (Harrell 2012: 1-2). For example, red jasper is commonly misidentified as cornelian, and multiple incorrect names are interchangeably used for siltstone and greywacke (see below).

Amethyst is a violet-coloured quartz with a Mohs hardness of 7.[95] It is found in mines in the southern Eastern Desert of Egypt (fig. 4.3; Aston *et al*. 2000: 51). Although the stone's peak of popularity for scarab manufacture was in the Middle Kingdom, two of the scarabs in the corpus from Tomb 27 at Gurob are made of this variety of quartz (**861**, **868**). However, as these scarabs are carved without great detail, with simply carved bodies and no base designs, their presence could be explained as heirlooms.

A scarab from Gebel el-Zeit (**477**) is described by the archaeologists as made from a 'translucent stone' (Régen and Soukiassian 2008: 174). This stone could be milky-quartz, a white translucent stone, or rock crystal, a colourless, clear form of quartz. Both stones have a Mohs hardness of 7 and

[93] For the purpose of this study, 'stone' seal amulets are defined as those made from minerals that are a two or above on the Mohs hardness scale. This category then includes all stones harder than talc or soapstone (steatite), which is dealt with separately (see Chapter 4.2).
[94] The total amount of stone seal amulets *including* the steatite examples comprises 84% of the corpus.
[95] The Mohs hardness scale is an ordinal scale that outlines the scratch resistance of different minerals. This scale was created in the early 1800s by geologist and mineralogist Friedrich Mohs but remains the most popular hardness scale for minerals. On the Mohs scale, the least scratch resistant mineral is talc with a Mohs hardness of 1, which means that it can be scratched by a fingernail. Jasper and cornelian both have a Mohs hardness of 7 and are 200x more scratch resistant than talc. Diamond, a Mohs hardness of 10, is the highest on the scale and is 1600 times more scratch resistant than talc and four times more scratch resistant than sapphire, which has a Mohs hardness of 9 (Tabor 1954: 249, 251).

are predominantly found in the Egyptian Western Desert and Sinai Peninsula (fig. 4.3; Andrews 1994: 103-104; Aston *et al*. 2000: 52).

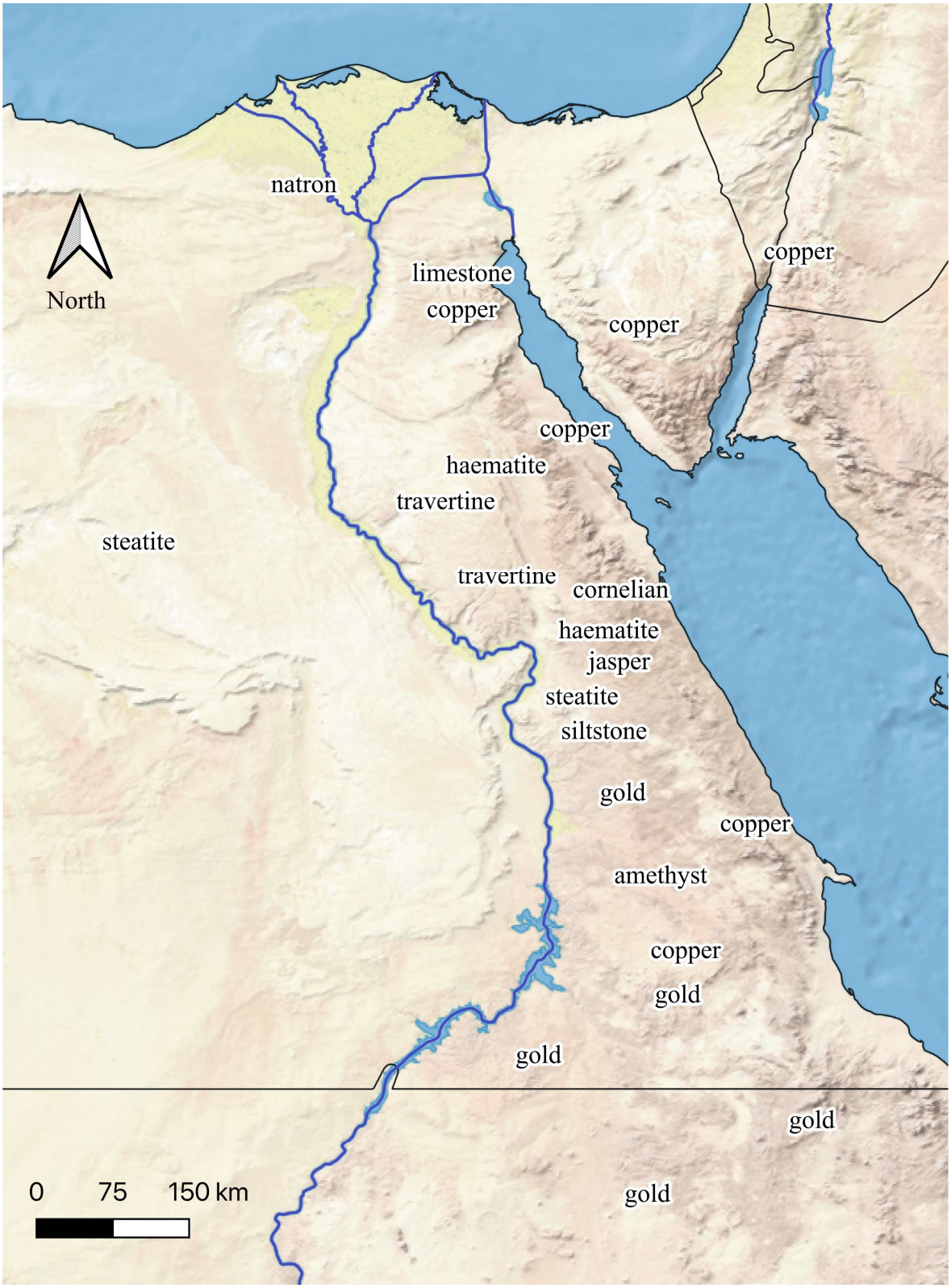


Figure 4.3: Map of Egypt, Sudan and surrounding regions indicating the areas of known sources of materials in which Eighteenth Dynasty seal amulets were produced.

Cornelian, also commonly known as carnelian[96], is a translucent yellowish-red to orangey-red semi-precious stone with a Mohs hardness of 6.5-7. The variation in red colour is due to the proportion of iron oxide in the stone. Cornelian is found in the form of pebbles throughout the entirety of the Eastern Desert, but larger stones, suitable for carving seal amulets, are particularly found along the Wadi Saga and Wadi Abu Gerida near Quseir and in the Western Desert in Nubia (fig. 4.3; Aston *et al*. 2000: 25-27; Boschloos 2012b: 5). The redness of the stone was seen as a symbol of blood, energy, and power, and cornelian was even linked to the desert god Seth (Andrews 1994: 102; Wilkinson 1994: 106-107; Boschloos 2012b: 9).

Cornelian was one of the earliest gemstones to be used to carve beads, but scarabs made from cornelian were predominantly popular during the Eighteenth Dynasty (Aston *et al*. 2000: 27; Ben-Tor 1993: 41). There are seven examples of cornelian seal amulets in the present corpus (**268**, **798**, **805**, **823**, **839**, **840**, **875**). Cornelian was a prized semi-precious stone, as demonstrated by its inclusion in Thutmose III's impressive list of tribute depicted in relief in the temple of Karnak (listed in accordance to the importance of the material) alongside silver and lapis lazuli (Breasted 1906: 163-217; Sherratt and Sherratt 1991: 361). In particular, a unique type of scarab with an 'X' or star inscribed on its base was solely produced from cornelian and red jasper and was found throughout Egypt, the Levant and the Aegean in the Eighteenth Dynasty and later in the New Kingdom (Boschloos 2012b).[97]

The most popular semi-precious stone for seal amulet production in this corpus is jasper, both red (**270**, **302**, **813**, **838**, **841**, **869**) and green (**269**, **293**, **353**, **821**, **815**, **862**). Jasper is a form of chert, which is found in the veins of igneous and metaphoric rocks and contains colourful impurities that can be red, green, yellow, or brown. The stone has a Mohs hardness of 7 and is found in the largest quantities in the Eastern Desert, particularly west of Quseir (fig. 4.3; Aston *et al*. 2000: 29-30; Boschloos 2012b: 5).

For the Egyptians, the colour green denoted prosperity, resurrection, and health (Wilkinson 1994: 108), and green jasper was widely used to produce heart scarabs in the latter half of the second millennium BCE (Ben-Tor 1993: 17, 41). Red jasper was the most popular colour of jasper used by the ancient Egyptians; however, attribution is difficult as it is frequently misidentified as cornelian and vice versa due to their similarities in colour. The major difference between the two stones is that cornelian is translucent, and jasper is opaque (Aston *et al*. 2000: 27, 29-30; Boschloos 2012b: 5). Ben-Tor (1993: 41) even surmised that red jasper was used to mimic cornelian in Eighteenth Dynasty scarabs.

[96] See Moorey (1994: 96) for a discussion on the etymology of the name 'cornelian' and why the common term 'carnelian' is incorrect.
[97] See Chapters 5.2.2.4 and 6.2.2.1 for further discussion on the 'X' or star design scarabs in cornelian and red jasper.

A variety of hard dark green and dark grey to black stones other than green jasper were used to create seal amulets, particularly heart scarabs, such as serpentine (**250**, **272**, **483**), haematite (**265**), and siltstone (**261**).[98] According to modern interpretation, the interchangeable use of dark green and black for heart scarabs and some other amulets could denote a connection with Osiris who was frequently depicted with green or black skin (Wilkinson 1994: 109-110).

Egyptian serpentine is a hard stone whose Mohs hardness varies between 3 and 6, and whose name derives from the 'snake-like' pattern on the stone (Wilkinson 1994: 87). The stone varies in colour from green-grey with darker veins and patches to mostly black with lighter speckles. The greener varieties were used for funerary goods in the New Kingdom, such as heart scarabs and shabtis, while the darker varieties were predominantly only used in the Middle Kingdom and Second Intermediate Period. Serpentine is widely found in the Eastern Desert (fig. 4.3); however, the only known ancient quarry dates to the Roman Period (Aston *et al*. 2000: 56; Klemm and Klemm 2008: 18, 294-295; Wilkinson 1994: 87).

Haematite is an opaque, dark grey or black stone with a Mohs hardness of 5.5 to 6.5. The stone naturally occurs throughout Egypt; however, extractable, relatively pure samples of haematite are found primarily in the central and southern Eastern Desert (fig. 4.3). The Egyptians favoured the black, metallic variety of haematite for the production of amulets (particularly the headrest, the set-square, and the carpenter's plummet) and small vessels; however, its ancient source is not known. While there are no known quarries predating the Late Period, perhaps haematite was sourced from the Sinai and the Aswan region during earlier periods, as well (Andrews 1994: 104; Aston *et al*. 2000 38).

Siltstone is a hard, dark green stone that is found in the Eastern Desert alongside greywacke. Siltstone and greywacke can be distinguished due to the visible grains in the latter while siltstone has a fine and homogeneous appearance. Both stones were used to create statuary, sarcophagi, and vessels and are commonly incorrectly called 'schist'[99] or 'slate', stones that are not found or used in Ancient Egypt. The only known quarry of siltstone and greywacke is located in the Wadi Hammamat and was used from the Predynastic through to the Roman Period (fig. 4.3) (Aston *et al*. 2000: 57-58).

Lapis lazuli (**321**, **662**) is a semi-precious stone ranging in colour from violet blue to its traditional and most popular royal blue to turquoise; this stone also contained white and gold coloured speckles and veins throughout (Aston *et al*. 2000: 39). Lapis has a Mohs hardness of 5 to 5.5 and its closest

[98] Unfortunately, many of the Gebel el-Zeit seal amulets have unknown stone types (such as **379**, **441**, **536**, **757**) as they likely have not been examined by a geologist. However, it is probable that the unknown dark stone scarabs were made of serpentine due to its popularity.

[99] Cowroid **261** is listed as being made from 'schist' on the Metropolitan Museum catalogue (http://www.metmuseum.org/art/collection/search/560224?sortBy=Relevance&ft=36.3.44&offset=0&rpp=20&pos=1). Schist is a 'medium to coarse-grained metamorphic rock with pronounced layering', which is different to the stones found and quarried in Egypt for use (Aston *et al.* 2000: 58). From a visual analysis of the cowroid, it appears to be made of siltstone rather than greywacke.

known source is the Badakhshan region of northeastern Afghanistan, an area in which at least four ancient lapis mines are known. These lapis mines are among the oldest known and likely the most productive lapis lazuli mines in the world (Wyart *et al*. 1981: 185; Aston *et al*. 2000: 39-40). Due to its beauty and distance to procure, lapis lazuli was highly prized and sought after in ancient Egypt, which can be seen by its inclusion alongside precious metals in 'treasures' and tribute lists. For example, the el-Tôd treasure from the Twelfth Dynasty was a set of four copper chests containing raw materials and finished items of gold, silver, bronze, and lapis lazuli, as well as cornelian beads and fragments of other semi-precious stones (Marcus 2007: 158). The list of tribute from Thutmose III's military campaign in the Levant displayed nine registers of items graded by value with gold at

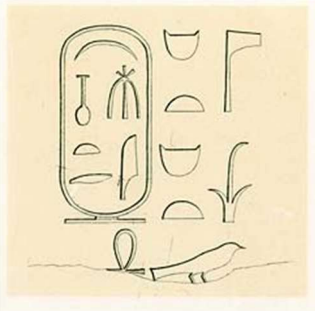


Figure 4.4: The now-fragmentary cartouche of Queen Ahmose Nefertari at the travertine quarry at Bosra, near the Wadi el-Asyut, as seen by Lepsius in the nineteenth century (Lepsius 1853: III, 3c).

the top, silver and semi-precious stones, including cornelian and lapis lazuli, below, and bronze, copper, and stone vessels beneath that (Sherratt and Sherratt 1991: 361). Lapis lazuli was carved into a variety of goods including amulets, jewellery, and even small vessels, and likely would have entered the Egypt via trade with Mesopotamia, which would have had more direct access to the quarries in Afghanistan (Aston *et al*. 2000: 39-40).

Travertine, which is frequently called 'Egyptian alabaster' or erroneously as just 'alabaster'[100], is a variety of limestone that is largely comprised of calcite. A total of nine travertine quarries are known from ancient Egypt, six of which were likely in use during the New Kingdom and are largely clustered in Middle Egypt between Minya and Asyut (fig. 4.3; Aston *et al.* 2000: 14, 59). The most well-known and popular travertine quarry is at Hatnub, eighteen kilometres southeast of Amarna, which was in intermittent use for roughly 3000 years. While Hatnub was widely used in state sponsored quarrying expeditions in the Old and Middle Kingdoms, there is little evidence of large quarrying expeditions there during the New Kingdom (Shaw 1994: 112-113; Aston *et al.* 2000: 59). However, there is evidence of Eighteenth Dynasty quarrying at other sites, including the 'Bosra' quarry near the Wadi el-Asyut, which contains the now fragmentary cartouche of Queen Ahmose Nefertari, the wife of

[100] 'Egyptian alabaster' or travertine must not be confused with 'true' alabaster, which is comprised of gypsum rather than calcite. True alabaster is found along the Mediterranean and Red Sea coasts, as well as in the oases. The most distinguishable difference between true alabaster and 'Egyptian alabaster' is the hardness of the minerals. True alabaster has a Mohs hardness of 2 and therefore is nearly soft enough to be scratched by a fingernail, while 'Egyptian alabaster' is harder with a Mohs hardness of 3 and therefore more practical for use (Aston *et al.* 2000: 21-22, 59; Shaw 2012: 65).

King Ahmose (fig. 4.4; Lepsius 1853: 3c; Klemm and Klemm 2008: 163-164). Travertine was a popular material in architectural features, such as wall-linings and shrines, and was also used to craft small vessels and statues, however, was not commonly used for carving amulets (such as cowroid **319**) and jewellery (Aston *et al.* 2000: 60).

4.1.2. Material Procurement (Quarrying and Mining)

Once the source of the raw material is known, or at least posited, the next step in the manufacture of the seal amulets in the corpus is the procurement of the stone by quarrying or mining. Generally, the quarries or mines would be situated where the best quality stone was located, rather than simply the most accessible. This is evident by the location of many limestone quarries that can be found on escarpments and at the tops of hills rather than towards the base where lower quality stone could be more easily reached (Aston *et al.* 2000: 5-6).

Typically, most quarrying and mining expeditions would have been conducted on a large-scale, controlled by the king or local governors. The necessity for having large expeditions would be due to the long distance that would often be required to travel to procure the stone and the human power required for extraction and transportation (Aston *et al.* 2000: 5). The evidence for these large-scale sponsored expeditions can be seen in numerous texts and reliefs detailing the expeditions (Eichler 1993),[101] and inscriptions carved onto the rock face at a number of quarries, such as Hatnub and in the Wadi Hammamat (Shaw 1986: 201-203; Klemm and Klemm 2008: 161, 301-303).

The stone would be extracted from its quarry or mine with a variety of tools made from stone, copper, and bronze (Aston *et al.* 2000: 7).[102] It is likely that the quarrying and mining expeditions would remove large quantities of stone in order to carve statues, sarcophagi, funerary goods, and others, depending on the type of stone being extracted. Some carving of finished items may have been done *in situ* at the quarry or mine, depending on the stone, time period, and location. For example, at the Maghara Abu Aziz travertine quarries in Middle Egypt, a travertine vessel workshop dating to the New Kingdom has been discovered (Shaw 2012: 65). To date, there is no concrete archaeological evidence of a seal amulet workshop at any quarry sites; therefore, it was likely that the stone was transported to workshops in the Nile Valley to be carved into scarabs, scaraboids, and cowroids.

Due to the relatively small quantity of seal amulets carved of hard and semi-precious stones and the small size of the artefacts, a large quarrying expedition to retrieve mass amounts of stone purely for seal amulet production would have hardly been necessary. Instead, Sparks (2007: 169) suggested that perhaps larger stone vessels could have been 'recycled' into smaller pieces, such as seal amulets and

[101] For example, see the relief from the tomb of Djehuty-hotep in Deir el-Bersheh showing a large expedition moving a carved colossal statue of the tomb owner from the Hatnub quarries (Newberry 1895: pl. XII).
[102] For an early work on ancient Egyptian tools, see Petrie 1917b.

beads after they had broken. This theory could explain the scarcity of semi-precious stone vessels in the archaeological record and would have been an economical way to create the small artefacts. Perhaps for smaller seal amulet workshops, the material procurement, in the case of the hard and semi-precious stones, was conducted by recycling old or broken larger artefacts rather than commissioning costly quarrying expeditions. Furthering this theory, Aston *et al.* (2000: 39-40) believed that the lapis lazuli cylinder seals from Mesopotamia that were found in the el-Tôd treasure were intended to be re-carved by the Egyptian craftspeople.

4.1.3. Carving

While the relative amount of hard or semi-precious stone seal amulets in the corpus is small (4%), many seal amulets were still carved out of hard stones throughout Egyptian history. Many of these seal amulets were only carved in the rough shape of a scarab and were left undecorated or were only minimally decorated due to the hardness of the stone, which caused great difficulty in carving. Furthermore, many of the stones already imbued religious or magical properties, which made the roughly shaped amulet apotropaic already and may have rendered carving a design unnecessary (Ben-Tor 1993: 41). Wilkinson (1994: 88) also noted the magical properties of these stones as outlined in several chapters of the Book of the Dead. Cowroids **321** of lapis lazuli and **319** of travertine were only cut into the basic Type I shape of cowroid (see Chapter 5.1.2) and their bases were left undecorated; perhaps the symbolic significance of their materials was deemed sufficient. However, Jaeger (1993: 53-54) noted that almost all of the rulers of the Eighteenth and Nineteenth Dynasties had cornelian scarabs with their names inscribed upon the bases. Furthermore, the jasper scarabs in the corpus (**269**, **270**, **293**, **302**, **353**) were all well carved despite jasper having a Mohs hardness of 7.

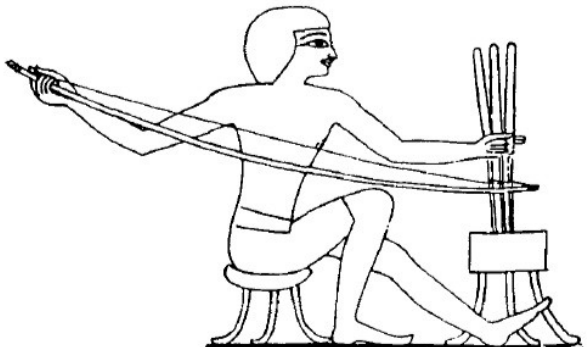


Figure 4.5: A line-drawing of a craftsman using a triple bow-drill to perforate beads, as seen in relief on the wall of the tomb of Rekhmire in Thebes (Davies 1943: pl. LIV).

The process of carving hard and semi-precious stone seal amulets was largely similar to that of steatite seal amulets (see Chapter 4.2.3 below); however, the level of difficulty and skill required would depend upon the Mohs hardness of the stone (Gwinnet and Gorelick 1993: 131). The scarab,

scaraboid, or cowroid would be roughed out by chipping or pressure-flaking the stone into the rough shape of the intended seal amulet, perhaps using a flint tool (Aston *et al.* 2000: 65).

It is likely that the longitudinal perforation would then be drilled before further details were carved. This is because the drilling of the perforation, which was necessary to string the seal amulet on a necklace or attach a ring bezel, would have been the most difficult and potentially damaging step in the production. By the New Kingdom, sophisticated bow-drills were utilised for carving perforations for a wide variety of beads. The bow-drill would have been made of a strong but flexible branch with an attached string and a copper or bronze bit fixed to a wooden rod. The craftsperson would carve a small depression into the seal amulet in which an abrasive, such as fine sand, would have been placed in between the bit and the stone to aid in the drilling (Stocks 1989: 527-528; Aston *et al.* 2000: 65). Denys Stocks' (1989) experimental archaeology has determined that the craftspeople were able to drill multiple beads or amulets at the same time using a triple bow-drill, a new technology developed in the Eighteenth Dynasty as seen on reliefs in New Kingdom Theban tombs (fig. 4.5).[103] For this 'mass-production' technique, three rods with drill bits would be attached to one bow-drill and the beads would be held in place on a specially designed table with depressions. His experimental work confirmed the difficulty in drilling the hard stones, a process that could often lead to an accidental breakage of the seal amulet (Stocks 1989: 530; see fig. 6.9 for broken, unfinished steatite scarabs).

Once the perforation was successfully drilled, the details, such as the head, back, and legs of the scarab, or the back design of the cowroid or scaraboid, plus the base motif would then be carved into the seal amulet with copper or flint tools. The seal amulet would then be smoothed with an abrasive to remove any traces of tool marks (Aston *et al.* 2000: 65).

4.2. Glazed Steatite

4.2.1. Benefits of Steatite

Steatite was the most popular medium for the creation of scarabs in not only the Eighteenth Dynasty (figs 4.1 and 4.2), but throughout the history of scarab manufacture in ancient Egypt (Keel 1995: 136). As demonstrated above, the cost of procuring and carving hard and semi-precious stones into scarabs was likely great. Steatite's popularity for scarab production was due to the simplicity in carving detailed scenes into the soft surface and the ability to mimic the vivid blue of Egyptian faience (fig. 4.6). This trend is reflected in the study corpus with 80% (703 out of 876) of the seal amulets having been created out of the stone. Steatite in its raw form is a soft stone that is primarily comprised of talc and has a Mohs hardness of 1. However, once fired, the stone undergoes a chemical reaction in which the talc is converted to enstatite and the stone becomes a Mohs hardness of 6 or 7,

[103] No triple bow-drills survive in the archaeological record; they are only evidenced from depictions in New Kingdom Theban tombs, as seen in figure 4.5 (Stocks 1989: 527).

comparable to the hardness of jasper or quartz. Furthermore, these steatite seal amulets were often glazed, which created a turquoise-blue, shiny object post-firing (Tite and Bimson 1989: 88; Ben-Tor 1993: 41; Tite, Shortland, and Bouquillon 2008: 24; Nicholson 2012: 13).

Figure 4.6: Scarab **147** from foundation deposit 9 (I) at Deir el-Bahri. The great detail carved into this scarab demonstrates the major benefit of carving seal amulets out of steatite (MMA 27.3.383, CC0 1.0).

While steatite was predominantly used for scarabs, beads, and other seal amulets, it was also occasionally used for other objects such as small vessels and statuettes (Aston *et al.* 2000: 59; Connor *et al.* 2015).

4.2.2. Raw Materials

Steatite occurs in large areas of the central and southern Eastern Desert, particularly near the Wadi Barramiya (fig. 4.3; Connor *et al.* 2015: 300-301). The only known quarries in Egypt date to the Roman Period (Andrews 1994: 103; Aston *et al.* 2000: 59); however, Klemm and Klemm (2008: 312) note that identifying and dating the quarries are difficult due to the speed in which steatite decays. Due to the large amounts of steatite scarabs produced, they were likely manufactured en-masse at workshops (particularly workshops associated with large cemeteries or temples) and therefore, a relatively large quantity of steatite would have been required, as opposed to the small quantities used for hard or semi-precious stone scarab production (see above).

The materials necessary to create the glaze are the same as those needed to create Egyptian faience and frit (see Chapter 4.3.2 below): silica, calcium, alkali flux, and a colourant. The majority of the glaze (roughly 60-70%) would be comprised of silica (Tite and Bimson 1989: 90), which could be in the form of pure desert sand. However, most desert sand consists largely of impurities that can discolour the glaze and very little of the sand is pure silica; therefore, the ancient Egyptians more commonly used crushed quartz pebbles to form a high-grade form of silica free from impurities (Tite and Bimson 1989: 99). Petrie (1894: 25) discovered quantities of crushed quartz pebbles while excavating at Amarna, a site known for its glazed material industry (Nicholson and Peltenburg 2000: 186; Nicholson 2007). Quartz is one of the most common minerals in the world and quartz pebbles

are found in abundance as a constituent in *wadi* gravels throughout Egypt and would have been easily sourced for glaze production (Nicholson and Peltenberg 2000: 52).

A small amount of calcium necessary for the glaze was obtained in the form of lime. The natural sources of lime for the ancient Egyptians were limestone or chalk, which are also found in abundance in Egypt throughout the Nile Valley (Aston *et al.* 2000: 40; Nicholson and Peltenburg 2000: 186). The alkali flux required would have come from one of two main sources. The most famous source is natron, which is predominantly found in the Wadi Natrun and near Elkab (fig. 4.3). This substance was largely used during the mummification process (David 2000: 383-384), and therefore, perhaps it was more practical and cost-effective to use plant ash from certain halophytic plants to act as the alkali flux. Chemical testing for quantities of magnesia can be used to determine whether natron or plant ash was used in the glaze as plant ash has a higher magnesia content (Nicholson and Peltenburg 2000: 187).

The final material necessary to create the glaze was a colourant. The vast majority of glazed steatite seal amulets utilised copper as the colourant in order to create a bright turquoise glaze, which is reflected in the study corpus with all glazed steatite seal amulets bearing a turquoise glaze.[104] The main sources of copper were in the Serabit el-Khadim region in the southwestern Eastern desert, which was also known for turquoise, and Timna at the border of the Sinai Peninsula and modern Israel (fig. 4.3; Ogden 2000: 149). Nicholson (2012: 14) noted that only very small amounts of copper were necessary to glaze steatite, whereas more was required in faience and frit production (see Chapter 4.3.2, below). Because only small amounts of copper were necessary for the glaze production, the craftsperson could have simply used copper fragments that were refuse from the production of other metal goods.

Due to the prevalence of quartz pebbles, lime, and plant ash in Egypt, and the low amount of copper necessary, the cost of glazing steatite and creating faience was relatively low (Miniaci 2018: 140).

4.2.3. Production (Carving, Glazing, and Firing)

The predominant benefit of steatite in seal amulet production is its softness and ease in carving. This allowed the craftsperson to carve intricate designs into the surface of the small artefacts (fig. 4.6). Steatite seal amulets were carved similarly to hard and semi-precious stone seal amulets but with far more ease. Due to the softness of the stone, the seal amulet would have been shaped by cutting away the excess steatite with a stone or bronze blade rather than pressure-flaking, which would have damaged the soft stone. As with the hard-stone seal amulets, the perforation would have been drilled next due to the propensity for raw steatite to break under pressure (Keel 1995: 33; Nai [1946] 2014:

[104] However, many of the seal amulets have experienced weathering and their glazes may be completely worn off on areas of the object (Tite *et al.* 2008c: 29-30).

7, 33). A variety of materials could be used for the drill bit, such as bone or reed. There is no evidence for the use of the triple bow-drill for boring perforations in steatite seal amulets; however, due to the apparent mass production of steatite scarabs and seal amulets, perhaps the technological innovation of drilling multiple scarabs at once was used for hard and soft stones, alike (Aston *et al*. 2000: 65; Nai [1946] 2014: 31-33; Stocks 1989).Once the shape of the seal amulet was roughed out and the perforation drilled, the finer details of the body and base would be carved with a sharp flint or metal blade. Great detail could be carved with ease into the soft stone and conversely, crude seal amulets could be easily made even by a less skilled hand (Tite, Shortland and Bouquillon 2008: 24). After

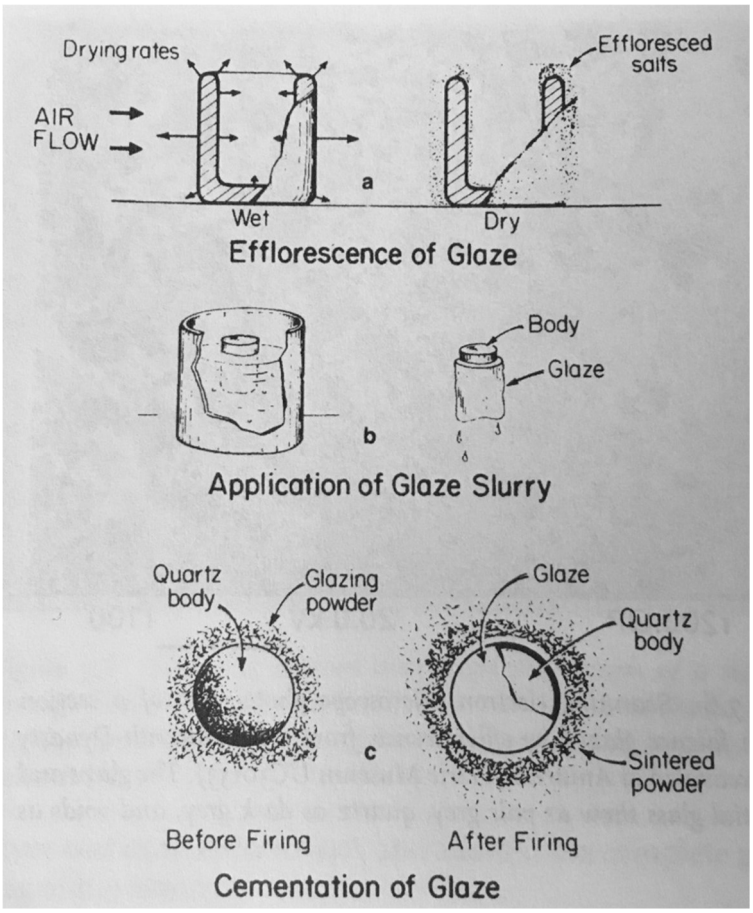


Figure 4.7: The three methods of glazing faience: a) efflorescence, b) direct application, and c) cementation. N.B. only direct application and cementation were possible for glazing steatite and only efflorescence was used in frit and glass production (Nicholson and Peltenburg 2000: fig. 7.5).

the seal amulet was cut into its desired shape, it would then be smoothed and polished with a fine abrasive or sandstone (Aston *et al.* 2000: 65; Nai [1946] 2014: 33; Connor *et al.* 2015: 306).

While steatite does not necessitate glazing before firing to convert the talc into enstatite[105], most steatite scarabs from Egypt were coated in glazing materials before firing[106] (Nicholson 2012: 13).

[105] See Boonstra (2014: 22) and Keel (1995: 33) for evidence of Palestinian produced steatite scarabs that were likely left unglazed before firing, resulting in 'burnt' steatite (Nicholson 2012: 13).
[106] Nearly all of the steatite scarabs in the present corpus were glazed before firing. However, three of the steatite scarabs (**692**, **847**, **850**) are listed as 'black steatite', which may be due to the same method seen on late Middle Kingdom and Second Intermediate Period statuettes, in which they are fired for roughly 24 hours at 900°C without glaze which creates a hard, black surface (Connor *et al.* 2015: 306-307).

There were two methods of glazing steatite seal amulets: cementation or direct application (fig. 4.7). In cementation, the seal amulet would be immersed in a powdery mixture of the glazing materials (quartz, lime, plant ash, and copper) within a clay vessel, which would then be placed in a kiln to be fired at 1000°C (Tite, Shortland, Bouquillon 2008: 27). After firing, the hardened mixture would be easily chipped away, leaving an evenly glazed turquoise object (Nicholson and Peltenburg 2000: 190; Tite and Bimson 1989: 93). The cementation glazing method allowed multiple small artefacts, such as scarabs and beads, to be glazed and fired at the same time; however, this method required a much

Figure 4.8: A visible drip mark on a faience chalice that was caused by the glaze running after direct application (Eton Myers Collection ECM 417).

higher copper content and therefore it was the least popular glazing method of both steatite and faience in the Middle and New Kingdom (Tite, Shortland, and Bouquillon 2008: 27-30).

Direct application glazing was the most frequently used method to glaze steatite seal amulets. For this method the four glazing materials listed above would be mixed with water to produce a glaze slurry that the seal amulet would be dipped into or that would be painted directly onto the object. The seal amulet would be left to air dry and then be fired at the reduced heat of 800°C for a longer period of time to reduce the likelihood of the glaze running and dripping (Nenna and Nicholson 2013: 144; Tite, Shortland, and Vandiver 2008: 47). This method required less copper content than cementation and also allowed multiple objects to be glazed by one mixture of slurry. It is then perhaps unsurprising that application glazing appears to have been the most popular method of glazing scarabs (Tite, Shortland, and Bouquillon 2008: 27-30). Direct application glazing can also sometimes be visible on the artefacts due to dripping, running, and pooling of the glaze (fig. 4.8).

4.3. Glazed Composition (Egyptian Faience, Frit, and Glass)

4.3.1. Significance of Glazed Composition Seal Amulets

Glazed composition seal amulets (Egyptian faience[107], frit, and glass) make up the second largest material group in the corpus with 124 examples (15%; figs 4.1 and 4.2). As with steatite, these seal amulets were generally a bright turquoise blue, in an attempt to mimic the semi-precious stone of the same name and to use the colour to elicit themes of rebirth, fertility, and life (Wilkinson 1994: 107-108). These man-made materials, especially faience, were widely used in ancient Egypt for amulets, beads, figurines, vessels, and more. These glazed compositions were less commonly used for seal amulet production than steatite as the latter allowed far more detail; however, they were more popular than hard or semi-precious stones (Keel 1995: 136).

Reconstructing the production methods of faience and frit seal amulets is impossible based on epigraphic or textual data alone as there are no uncontentious depictions of the manufacturing process[108] (Nicholson and Peltenburg 2000: 178-179). Fortunately, within the past few decades, scholars have completed exhaustive chemical analyses on faience and glazed artefacts as well as conducted experimental archaeology to recreate the production methods utilised by the ancient Egyptian craftsperson (Nicholson and Peltenburg 2000; Nicholson 2007; 2013; Tite *et al*. 1983; Tite and Bimson 1989; Tite and Shortland (eds.) 2008).

4.3.2. Raw Materials

The same raw materials were necessary to create Egyptian faience and frit as would be used to create the glaze for steatite seal amulets (see Chapter 4.2.2 above for greater detail), just in differing quantities.

For faience production, 99% of the mixture would be comprised of silica, which was generally in the form of crushed quartz pebbles. Lime would make up 1 to 5% of the mixture, while the alkali flux provided by natron or halophytic plant ash would comprise 0.3 to 5% of the mixture, and the colourant would make up the final 2 to 5%. As with steatite, copper was the most common colourant to produce the vivid turquoise seen in most faience and frit artefacts; however, faience artefacts, such

[107] Egyptian faience is a 'glazed non-clay ceramic material' that is commonly just called 'faience' within Egyptology; however, a northern Italian glazed ware named Faenze causes confusion in differentiating the two different materials in wider audiences (Nicholson and Peltenburg 2000: 177). However, since the primary audience of this study is familiar only with Egyptian faience, the shorter term 'faience' will frequently be used to describe Egyptian faience.

[108] A scene from the Twenty-Sixth Dynasty tomb of Ibi in Thebes (TT 36) provides the only suggested depiction of craftspeople mixing and glazing faience artefacts (Nicholson and Peltenburg 2000: fig. 7.1). However, the relief is fairly ambiguous, and it is wholly possible that the craftspeople depicted are completing other tasks. The stela of Debeni from Lisht, a known faience production site, gives him the title of 'overseer of faience workers'. Three other Nineteenth Dynasty inscriptions give similar titles, however, there are no known other attestations of 'faience workers' in pharaonic Egypt (Nicholson and Peltenburg 2000: 178-179).

as those produced at Amarna, could be made in a wide variety of colours using other colourants, such as cobalt to create a darker blue and iron to produce red (Nicholson 2007: 135, 137). However, most faience and frit seal amulets were produced with copper to produce a turquoise glaze.

Egyptian blue frit is an unglazed material that was produced using the same ingredients as faience in different quantities (for instance, a higher quantity of copper than lime) with a slightly altered manufacturing method (see below; Hatton *et al.* 2008: 1591).

Modern glass is manufactured from pure silica at temperatures over 1700°C, temperatures impossible to reach in an ancient kiln. Therefore, adding an alkali flux, such as natron or plant ash allowed the glass to be fired at the much lower temperature of 1000°C (Nicholson and Henderson 2000: 197). Due to the high magnesia content in many tested glass artefacts, plant ash was the more common alkali flux used in glass production (Henderson 1989). Lime has also been found in small quantities in glass; this lime is believed to have entered the glass as inclusions in the sand that was used as the silica. For example, the sand near Amarna, a known glass-manufacturing site, is comprised of up to 18.86% lime (Nicholson and Henderson 2000: 197). These three ingredients would have created a greenish-brown coloured glass once fired and therefore a colourant was usually added to give the object a more desirable hue. Unlike in faience and frit production, cobalt was the most popular colourant for glass with copper less common (Nicholson and Henderson 2000: 198).

4.3.3. Production (Shaping, Glazing, and Firing)

As mentioned previously, the manufacturing methods of objects made from glazed composition materials have been recreated from extensive scientific study and experimental archaeology (Tite and Bimson (eds.) 2008; Nicholson 2007; 2013; and more).

Figure 4.9: Ceramic mould for a faience scarab dating to the Twenty-Sixth Dynasty that was discovered by Petrie at Naukratis (BM 1888,0601.744.2, CC BY-NC-SA 4.0).

For faience production, the silica, alkali flux, and lime would be mixed together to form a paste. This paste would then be shaped into the desired object either by hand or with a ceramic mould (fig. 4.9).

Petrie (1910: 119) suggested that the perforation for stringing a bead or amulet would have been made by moulding the object around a reed or string, which would be left in place while the paste set. Furthermore, Lucas and Harris (1962: 44-46) noted that faience beads were in fact generally perforated before firing as evidenced by a broken faience bead that had been pierced while still soft. Finer details could have been carved into the setting paste by cutting or abrading the surface (Nicholson 2013: 16; Nicholson and Peltenburg 2000: 188).

When fired, these ingredients alone would create a whitish-grey seal amulet; therefore, to create the shiny, turquoise surface, a glaze would be applied before firing (fig. 4.7). The faience seal amulet could be glazed using either of the two glazing methods used for steatite seal amulets: cementation or direct application (see Chapter 4.2.3 above). A third glazing method for faience (that was not possible for steatite) called efflorescence glazing, required a higher alkali content (Nenna and Nicholson 2013: 135). This method required the copper colourant to be introduced at an early stage of production by mixing it directly into the paste. When the paste was setting in the shape of the seal amulet, the excess alkali would rise to the surface of the object ('effloresce') and would then fuse with the copper, silica, and lime during the firing process to create a hardened glassy, turquoise surface (Nicholson 2013: 17). Efflorescence was the most common faience glazing method in the pharaonic period and gave an even distribution of glaze on the surface of the object (Nenna and Nicholson 2013: 140).

Figure 4.10: Scarab **084** from foundation deposit 7(G) of the *Djeser-djeseru* temple made of Egyptian blue frit in a blue-green colour (MMA 27.3.292, CC0 1.0).

Eight seal amulets in the corpus were made of Egyptian frit. This material is often confused with faience but is easily distinguishable due to its homogeneous coloured surface (as opposed to the frequently heterogeneous surface of direct application glazed objects). Furthermore, when fractured, frit is even more distinguishable as its colour is uniform throughout the matrix, whereas faience is only coloured on the surface and its core is a white-grey colour. While blue frit, or 'Egyptian Blue', was used for small amulets, it was most commonly used as a pigment in tomb and temple relief decoration (Tite 2008: 147-154). Frit was comprised of the same materials of faience but required

higher quantities of lime and copper (Hatton *et al*. 2008). Once the paste was mixed and the seal amulet formed, the frit object would be fired at 800°C, then ground, re-moulded, and fired a second time at 1000°C. This additional process created the light blue and green colour seen in seal amulets in the corpus (fig. 4.10), whereas only firing once would create a dark blue object (Tite *et al*. 2008: 147-154).

While experimentation with a few glass objects may have begun as early as the Twelfth Dynasty, glass was only sparingly made until the reign of Amenhotep III onwards (Andrews 1994: 100). Only four glass seal amulets (**320**, **370**, **800**, **874**) are in the corpus. The production of glass seal amulets requires two distinct phases. The first is the production of the raw glass as ingots. Nicholson (2007) and Hodgkinson (2015) have demonstrated that the creation of glass ingots often took place at a separate manufacturing site than bead or seal amulet workshops. Once the coloured glass ingot was obtained, the seal amulet could be produced by cold-working or melting the glass into the desired form. Common finds relating to ancient Egyptian glass-working sites, include glass ingots, rods, and chips (Hodgkinson 2015: 282).

4.4. Precious Metals

Only two of the seal amulets (**792**, **812**) in the corpus were made from a precious metal.[109] However, 42 of the 876 scarabs, scaraboids, and cowroids have an attached ring mount made of gold, silver, or electrum, which is a naturally occurring alloy of gold and silver (Schorsch 2001: 55). Traditionally, gold is characterised as a metal comprised of at least 75% gold. Gold-silver alloys with less than 75% gold are considered electrum, whereas gold-silver alloys with 5-50% gold are classified as aurian silver. Any gold-silver alloy with less than 5% gold is simply considered to be silver with trace amounts of gold (Ogden 2000: 162-163).

The metal scarabs and mounts in this study have all been classified by metal type by the excavator or museum staff (Appendix D), and therefore cannot be verified by this study as falling into the traditional categories for gold, electrum, and silver other than by a visual examination. Barring a metal ring and scarab from the Tomb of Maket[110], the exact composition of the alloys used to create the scarab (**812**) and the ring mounts are not known by the author. Furthermore, the purpose of this

[109] Scarab **792** is silver scarab mounted in a gold ring bezel with a silver ring band, and scarab **812** is a 'hollow' gold scarab, both from the Tomb of Maket at Lahun, and both belonging to Lady Maket. The location of Scarab 826 is presently unknown and has not been visually examined by the author; however, Tufnell (1984: 110) included a drawing of the scarab in her study. Scarab **853** from Tomb 26 at Gurob is published as 'covered in gold foil'; unfortunately, there are no photographs of this scarab and it was not included in the distribution to the Brussels Royal Museums of Art and History. There is also one silver ring (**791**) also from the burial of Maket that is not a seal amulet but will be briefly discussed.

[110] The silver scarab and ring (**792** and **791**, respectively) from the Tomb of Maket at Lahun were analysed by Gale and Stos-Gale for their study of Egyptian silver with energy-dispersive X-ray fluorescence (XRF) in the 1980s to determine their composition (Gale and Stos-Gale 1981: 111-112, Tables 1, 2).

study is not to focus on the classification by type or the production of the ring mounts, but rather to discuss their usage in regard to seal amulets. Therefore, a brief description of how the scarabs and ring mounts were made is detailed below.

Precious metals have been utilised in the production of goods in ancient Egypt since the Predynastic period (Ogden 2000: 170).[111] Gold was fairly available in ancient Egypt; its sources were alluvial deposits in desert wadis and veins in quartz formations in the Eastern Desert (Schorsch 2001: 55). The ancient Egyptians documented three main mining regions. The 'gold of Koptos' was mined in the Eastern Desert from the Wadi Hammamat to the Abbad Region, the 'gold of Wawat' was mined further south near the Wadis Allaqi and Gabgaba, and the 'gold of Kush' was mined in modern Sudan (Klemm and Klemm 1994; Ogden 2000: 161). In contrast, silver was not readily available in Egypt. Scientific studies have shown that much of Egyptian silver was a natural alloy of silver and gold due to the rarity of pure silver; this corresponds with the fact that early silver was called 'white gold' in ancient Egyptian (Lucas 1961: 245, 248; Gale and Stos-Gale 1981: 113). Another potential source of silver was from argentiferous galena; however, the known galena mines in Egypt, including Gebel el-Zeit, contain very low contents of silver (Gale and Stos-Gale 1981: 105-106; Castel and Soukiassian 1989: 26; Ogden 2000: 170). However, it is possible that the silver used in Egyptian artefacts was from galena of foreign countries. In fact, Eighteenth Dynasty sources state that silver was received from various countries in Asia (Lucas and Harris 1962: op. cit. 247). One definitive source of both gold and silver in ancient times was from foreign tribute. The tribute list of Thutmose III's campaigns in Syro-Palestine at Karnak depicted silver as booty in the form of both finished objects and ingots to be worked (Breasted 1906: 163-217; Sherratt and Sherratt 1991: 361).

Gold and silver appeared to have been used indiscriminately until the Fourth Dynasty and were both simply called *nbw*. After that, silver was termed *nbw ḥḏ* 'white gold' and later the *nbw* was dropped from the name but replaced by the gold determinative. In the New Kingdom many different terms for gold were used to describe the different sources, forms, and colours of the gold (Schorsch 2001: 56).[112] Both gold and silver appeared to have been valued similarly by the ancient Egyptians prior to the New Kingdom with some Middle Kingdom sources listing silver before gold in goods lists, insinuating a higher value. After this time, the value was reversed (Harris 1961: 32-33, 41-42; Gale and Stos-Gale 1981: 103).

Apart from the solid silver ring (**791**) from the burial of Maket at Lahun, all of the other silver or gold artefacts appear to have been created out of sheets of the precious metal. The process of gold

[111] For examples, see the silver box-lid from the middle of the fourth millennium BCE at the Ashmolean (AN1895.987) and the gold and semi-precious stone diadem found in a 3300 BCE Abydos tomb at the British Museum (EA37532).
[112] For a brief discussion of the linguistic evidence for the indiscriminate use of gold, silver, and electrum prior to the Fourth Dynasty and subsequent linguistic distinguishing of the metals, especially in the New Kingdom, see Bulsink (2015: 22-23). A more detailed discussion can be found in Harris (1961: 32-50).

and silver-working were similar. The metal, in the form of ingots or nuggets, would be melted and perhaps alloyed with silver, gold, or even copper. The process of melting the metal can be seen depicted in the Sixth Dynasty tomb of Mereruka at Saqqara, which shows six melters using blowpipes around a crucible (Duell 1938: pl. 30). After the metal had cooled, it would be beaten on a stone anvil with hammer stones and smoothed to create metal sheets, as depicted in the tomb of Rekhmire in Thebes (Davies 1943: pl. 55). The sheets would have then been hammered and bent into shape. Then strips of metal would have been wrapped around the circumference of the seal amulet and soldered into place to create the thin metal mounts for the seal amulet rings (Scheel 1989: 21-32; Ogden 2000: 170; Bulsink 2015: 155-173). For a simple method of creating the ring shanks, the hammered sheet-metal would be cut into thin strips, twisted into a tight spiral, and then rolled between two pieces of wood to create a smooth wire and then soldered onto the ring mount (Scheel 1989: 44; Bulsink 2015). Since the rectangular ring (**791**) is made of denser silver, this object was likely crafted by pouring the molten silver directly into a ceramic or limestone mould (see Chapter 6.3.2) or possibly, but unlikely, using the lost-wax method.[113]

This study proposes that the metal ring mounts were produced, and perhaps even affixed, at a separate workshop, or at least by other craftsmen, to the seal amulets. The production process for precious metals is quite different to that of seal amulets. As potential supporting evidence for this theory, many of the scarabs have legs carved in detail that are nearly completely obscured by the ring mount. There would be no obvious purpose of carving the detailed sides if only to be obscured by the metal mount. Therefore, it is posited that some scarabs would have had ring bezels added after production, rather than the seal amulets being produced specifically for the bezels. This means that for the seal amulets with ring mounts, there were likely at least two places of production. The first would be the seal

Figure 4.11: Scarab **792** from the Tomb of Maket, Kahun. This scarab is made of silver with a silver and gold ring mount (Photograph author's own, Ashmolean AN1890.762).

[113] The lost-wax method was commonly used for creating three-dimensional figurines and statues of metal and involves creating a wax model of the desired finished object, which is then coated in clay. When the clay is fired, the wax melts and flows out of a perforation creating a detailed mould. The molten metal is then poured into the perforation and left to cool and solidify. The clay mould is then broken away, leaving a detailed, three-dimensional figurine or statue (Ogden 2000: 157).

amulet workshop and the second would be a metal workshop where the ring bezel would be hammered and shaped to fit the finished seal amulet.

It is more difficult to determine what type of workshop would have produced scarab **792** (fig. 4.11) considering the scarab itself is made of silver by sheet-working. The scarab bears the popular Eighteenth Dynasty A-type head (see Chapter 5.1.1.1 for a discussion of head types) yet would have required a different skill set to create than steatite, faience, or even hard stone seal amulets.

4.5. Other Materials

One scaraboid (**750**) from Gebel el-Zeit was made of wood. Although rare, some seal amulets were made of organic materials, including bone (Boonstra 2014: 25). Unfortunately, the type of wood used for this large (28mm long) but simple scaraboid is unknown (Régen and Soukiassian 2008: 270).

4.6. Archaeological Evidence for Seal Amulet Production

The purpose of the earlier part of this chapter was to detail the production process of each material-type of scarab, scaraboid, or cowroid found within the present corpus. Once the manufacturing methods are known, individual seal amulet workshops can be better understood for what types of seal amulets were being produced at each workshop. For example, due to the hardness of cornelian and jasper, it is perhaps likely that jewellers produced these seal amulets rather than being carved by those producing the soft stone glazed steatite seal amulets due to the different skills, tools, and equipment required. Furthermore, as the glazing process of steatite was similar to the production of glazed composition seal amulets, perhaps these objects were produced in the same workshops due to their requirements of largely the same raw materials and infrastructure.

While Chapter Five analyses the stylistic features of seal amulets to ultimately propose workshops (Chapter 6), archaeological evidence of seal amulet production can also be utilised to try to pinpoint exact locations where ancient craftspeople created these seal amulets.

The basic infrastructure required to create steatite or glazed material seal amulets (faience, frit, and glass) was a kiln. These kilns required small diametres in order to heat quickly and thick walls to preserve the heat (Nicholson 2007: 36-43). As the heat required to glaze steatite and fire faience would have been higher but still roughly similar to the heat necessary to fire ceramics and glass (Wodzińska 2009: 1; Tite, Shortland, Bouquillon 2008: 27)[114], it is possible that the seal amulet workshops would have shared kilns with other industries at the site and perhaps the kilns would not

[114] Ceramic pottery, glazed steatite, and faience are all fired between 800 and 1000°C and therefore pottery could have easily been fired in a kiln built for glazed materials and vice versa (Wodzińska 2009: 1; Tite, Shortland, Bouquillon 2008: 27).

have been in the immediate vicinity of the craftspeople carving and shaping the seal amulets. Hodgkinson (2012: 16) noted that a kiln at Gurob was likely built to fire pottery but that its thick walls and small diameter would have allowed glass to be fired at a high temperature, as opposed to another kiln on site built purely for pottery production. Furthermore, Nicholson (2007: 36-43) found that two of the kilns at an Amarna glass and faience workshop were built with thicker walls than necessary for pottery but contained pottery within their fills.

Kilns are not always found in the archaeological record due to factors such as poor preservation or a lack of thorough excavation. However, a concentration of vitrified mudbrick and sandstone are strong indicators for ancient 'high-temperature technologies', as can be seen at the glass and faience workshops of Amarna (Nicholson 2007: 84; Hodgkinson 2015: 281-282).

Further archaeological evidence for seal amulet production is the presence of raw materials. For the hard and semi-precious stone seal amulets, the only raw material that could be left in the archaeological record is fragments and debitage of the stone that the seal amulet was made from. The presence of small pieces of stone alone would make identifying a seal amulet workshop impossible; however, in addition to other archaeological evidence of a workshop, debitage can illuminate the types of stone carved at a workshop. For example, flakes and chips of red stone alongside a chalcedony amulet at a faience/glass bead and amulet workshop in the Main City of Amarna likely denotes the production of hard stone beads alongside those of faience and glass (Hodgkinson 2015: 282). Furthermore, the evidence of debitage and unworked stone, plus the typological identification of a workshop from that site (see Chapter 6.3) could strengthen the argument for seal amulet production on a site and possibly identify specific areas of craftwork.

For glazed steatite, faience, frit, and glass seal amulets, there is more possibility of raw material left in the archaeological record. Primarily, Petrie and other excavators have often found pebbles of quartz in areas of known faience manufacture (Petrie 1894: 26; Nicholson 2007: 102; 2012: 43, 133). While the presence of pieces of quartz do not alone prove production, their presence along with other evidence for production can identify areas of possible glazed material artefact production. For glass seal amulets, the presence of glass ingots could indicate that the raw glass was manufactured at another site, or another workshop on the site, and that only the processing of the raw glass into seal amulets occurred at the workshop (Hodgkinson 2015: 282, 284).

The presence of ceramic moulds in the archaeological record is concrete evidence for faience, frit, or glass seal amulet manufacture. Bead, amulet, and even scarab moulds have been found in large quantities at a number of sites in Egypt (see Chapter 6.3.2 below) and indicate that faience, frit, or glass paste was pressed into the mould, left to set before firing, and the used mould was then left on site. Vandiver (1983: A108) noted that moulding was the main technique for shaping faience artefacts

during the New Kingdom. It is highly unlikely that moulds were ever used for anything other than production, and therefore their presence is definitive proof of glazed material production on site.

Unfinished steatite scarabs are known from a few sites (see below Chapter 6.3.2). This study holds that unfinished steatite scarabs are considered to be the most concrete archaeological evidence for steatite scarab manufacture as their presence can only denote production. These unfinished scarabs are generally found roughly cut and in an unfired state; they are identified as unfinished scarabs due to their crude scaraboid shape and their lack of perforation (and therefore not identified as a finished bead). Furthermore, they are not stone weights. Petrie's study of ancient Egyptian weights found that less than 0.01% of the nearly 3000 weights he studied were made of steatite (and predominantly black steatite) and that the shape of weight most similar in appearance to an unfinished scarab was not used until the Saite Period (Petrie 1926: 5, pls. XXVIII-XLII). Unfinished steatite scarabs are thus presumed to denote production because the presence of an unfinished scarab on a site would have required completion by a craftsperson as unfinished steatite scarabs are never found in tombs, temples, or foundation deposits (Keel 1995: 33-34; Boonstra 2014: 25).

The purpose of the preceding chapter was to outline the materials and methods of production for scarabs, scaraboids, and cowroids, particularly in the Eighteenth Dynasty. The archaeological evidence for 'material' seal amulet workshops will be expanded upon in Chapter Six and will be contrasted with the evidence from Chapter Five (regional styles) with the aim of demonstrating scarab workshops based on both typological and archaeological evidence (Chapter 6).

Chapter Five:
SURFACE CHARACTERISTICS AND BASE DESIGN TYPES OF EARLY EIGHTEENTH DYNASTY SEAL AMULETS

The following chapter discusses the various surface characteristics of the scarabs, cowroids, and scaraboids in the corpus (see Appendix D for the full corpus of early Eighteenth Dynasty[115] seal amulets used in this study). These surface characteristics include the head, back, and leg types for the scarabs (5.1.1) and the back/body types for the cowroids and scaraboids (5.1.2 and 5.1.3). A short discussion will also be made on the style of other seal amulets, such as the bifacial plaques (5.1.4). The discussion of these body surface characteristics and their implications will comprise the first portion of this chapter. Following will be an analysis of notable base design motifs (5.2.2), with an examination of the designs containing royal names dealt with separately (5.2.3).

Finally, an attempt to determine regional styles will be made by looking at the body surface characteristics and base design motifs as a whole (5.3). These regional types will then be used in an attempt to recreate seal amulet workshops of the early Eighteenth Dynasty (Chapter 6). As demonstrated in the past (Ryholt 1997[116]; Ben-Tor 1994; 1997; 2007; Boschloos 2012a; see Chapter 2.1.2 for more), a discussion of these seal amulet workshops can answer further questions regarding the socio-political landscape of ancient Egypt during the period in question; these questions will also be addressed in Chapter 7.

5.1. Body Surface Characteristics

The various body surface characteristics and patterns seen on the scarabs, cowroids, and scaraboids will be discussed below. The head, back, and leg types for the scarabs, as designated by Tufnell and Ward (Tufnell 1984; Ward and Dever 1994) and then amended by Keel (1995) and the present author, can be seen in Appendix B. The types of cowroids, which are differentiated based on the style of their backs in a typology created by Keel (1995: 78), are also discussed (Appendix B). Then, the various types of scaraboids, including the schematic scaraboids, figure scaraboids, and object amulet scaraboids, will be examined. Finally, other seal amulets that do not fit comfortably within the terms of scarab, cowroid, or scaraboid will be briefly reviewed, namely the various shapes of bifacial plaques.

[115] N.B. While the focus of this study is on early Eighteenth Dynasty seal amulets, there are some late Seventeenth Dynasty and late Eighteenth Dynasty seal amulets in the corpus due to a variety of factors. See Chapter 3.2.7 and 5.2.3.10 for further discussion.

[116] Ryholt based his reconstruction of the Second Intermediate Period largely on scarabs (alongside the Turin King list); however, his methodology and conclusions, in regard to the scarabs, have been critiqued and are not widely accepted (Ben-Tor *et al.* 1999).

The chronological and potential regional significance for each type of surface characteristic will be addressed. For example, it will be mentioned if certain types of heads are more commonly seen on scarabs in Upper Egypt during the early Eighteenth Dynasty, or if a type of scaraboid is present only in specific contexts.

5.1.1. SCARAB AMULETS

The overwhelming majority of the corpus of seal amulets are scarabs. 687 of the 876 seal amulets, 78%, are of amulets with the backs carved to resemble a single beetle (fig. 5.1).[117] The style of rendering of these beetle-shaped seal amulets can range from highly naturalistic to very schematic but in most cases, the scarab is shown with a head, back, and legs of the beetle (fig. 2.1).

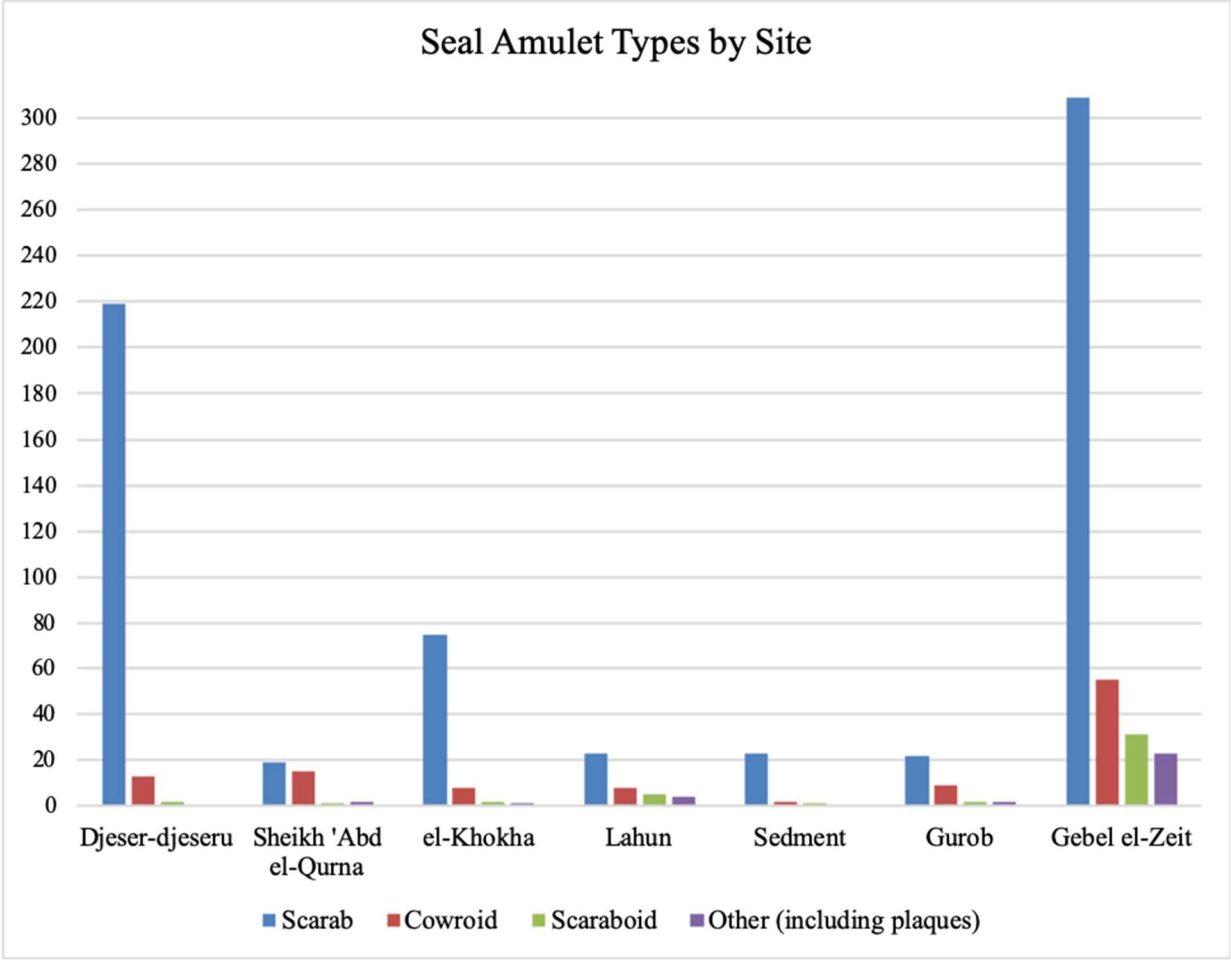


Figure 5.1: The amount of each type of seal amulet arranged by site.

The majority of the scarabs are from Gebel el-Zeit's Site 1 sanctuary with 309 examples (74% of their total seal amulet corpus). The second largest assemblage of scarabs with 219 examples (93.5% of their total seal amulet corpus) was discovered in three of the foundation deposits of Queen

[117] A further five seal amulets are also technically scarabs; however, their backs are carved to resemble two or more beetles and will therefore be dealt with separately in Chapter 5.1.4.1.

Hatshepsut's mortuary temple, *Djeser-djeseru* (148 from foundation deposit 7 (G), six from foundation deposit 8 (H), and sixty-five from foundation deposit 9 (I)).

A further seventy-four scarabs were excavated in three separate tombs in the Theban cemetery of el-Khokha with eighteen from the Tomb of Neferkhawet (90% of the tomb's total seal amulet corpus), twenty-six from Tomb CC 37 (81% of the tomb's total seal amulet corpus), and thirty from Tomb CC 41 (88% of the tomb's total seal amulet corpus).

Another nineteen scarabs were found in and around the Tomb of Hatnefer and Ramose at the Theban cemetery of Sheikh 'Abd el-Qurna (51% of the tomb's total seal amulet corpus). Twenty-three scarabs were discovered within the Tomb of Maket at Lahun (57.5% of the tomb's total seal amulet corpus). A further twenty-three scarabs were excavated at Tombs 1723 and 1728 in Sedment (86% and 92% of the tombs' total seal amulet corpora, respectively). Finally, twenty-two scarabs were found in two tombs at Gurob; seven from Tomb 26 (50% of the tomb's total seal amulet corpus) and fifteen in Tomb 27 (71% of the tomb's total seal amulet corpus).

5.1.1.1. Head Types

Tufnell (1984: 32-34) has designated four main categories for the head types of scarabs: lunate heads (which are called the A-type), 'open' heads, in which the head and clypeus are shown as one (B-type), square heads (C-type), and trapezoidal heads (D-type) (fig. 5.2 and Appendix B, 1). Tufnell also noted but did not depict, whereas Ward (1978: 25-27) did, a fifth type (X-type) for when the head was not represented or was shown very rudimentarily; however, in the instances where the head was rudimentarily depicted, a type will be given and when the head is not carved, that will be noted. Within the four main types, there are seven to nine sub-types. All four main head types will be discussed below; however, only the relevant sub-types will be examined.

Currently thirty-seven of the scarabs have unknown head types, generally due to the heads being broken off or the scarab being too worn and weathered to determine the head shape.[118] However, as ninety-five percent of the scarabs do have a known head type, hypotheses regarding the chronological and regional head type preferences can still be made.

[118] Scarab heads, especially the clypeus, were often at risk of breakage, predominantly due to the fact that they were positioned over the top perforation point (a weak point).

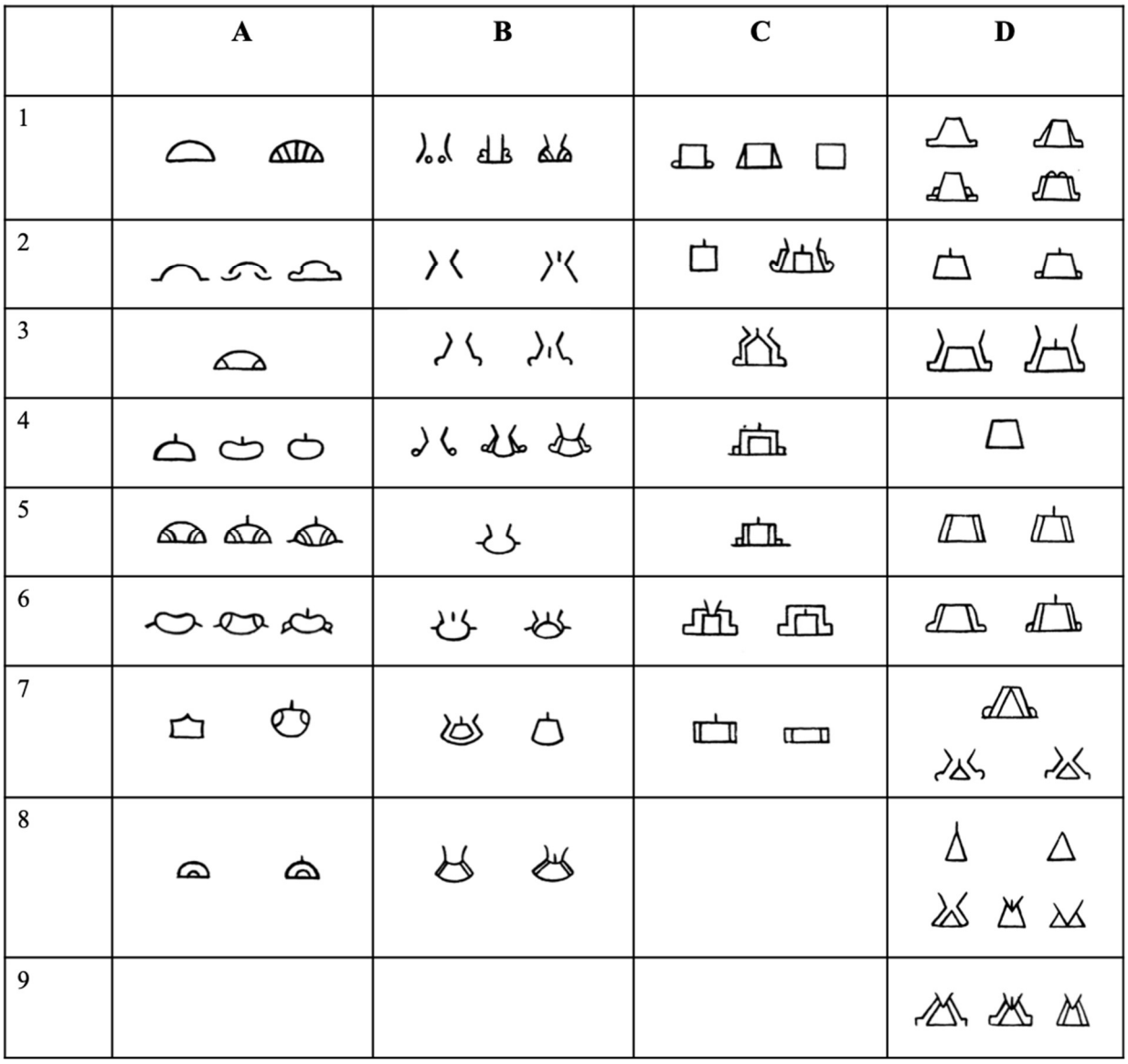


Figure 5.2: Scarab heads by type (after Tufnell 1984:32).

5*.1.1.1.1. Lunate Heads - A-Type*

The A-type, or lunate shaped head, according to Tufnell's typology[119] (fig. 5.2 and Appendix B, 1), was overwhelmingly the most popular head type for Eighteenth Dynasty scarabs (figs 5.3 and 5.4). Sub-types A1, A3, and A5 were most commonly used; these styles are quite similar with the only difference being the addition of single lines marking the eyes on A3 and double lines on A5. However, slight these differences may seem, chronologically they are significant (figs 5.3 to 5.5). A1, the lunate head with no eye markings was already a very popular head type in the early First Intermediate Period. By the end of the Eleventh Dynasty, its popularity had waned with a slight resurgence in use in the Twelfth Dynasty before falling into complete disuse in the Second Intermediate Period. Type A3, with single lines marking the eyes, was uncommonly used in the early First Intermediate Period before it became the most commonly used A-type in the late Eleventh Dynasty. This type had a steep drop in popularity in the Twelfth Dynasty and practically disappeared

[119] See Chapter 2.2.1 for further discussion of the benefits and challenges of using Tufnell's scarab typology.

from scarabs for the rest of the Middle Kingdom and Second Intermediate Period. Type A5, with double lines marking the eyes, was seldom used in the first half of the second millennium BCE but was used sparingly in the mid Second Intermediate Period (Ward 1994: 197).

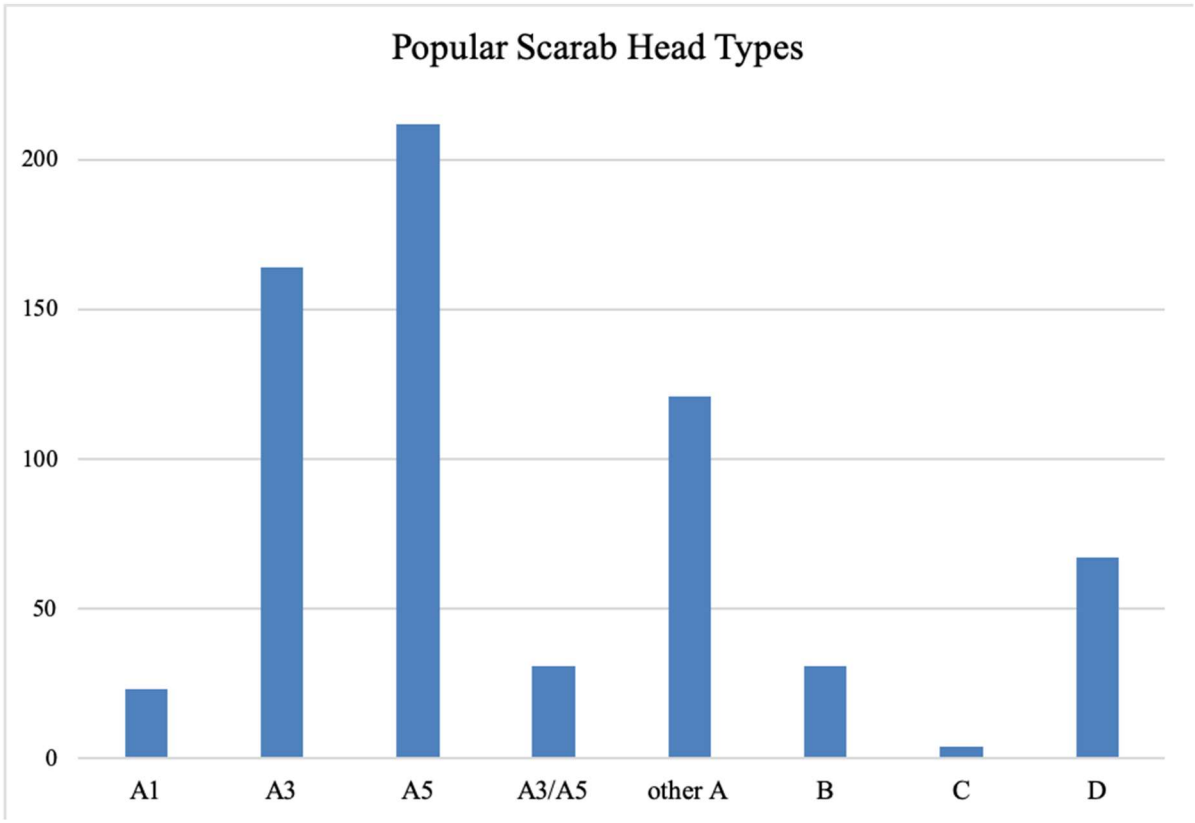


Figure 5.3: Chart depicting number of occurences of popular scarab head types in corpus.

During the Eighteenth Dynasty, all three styles sharply rose in popularity after relative obscurity in the Second Intermediate Period and they all became characteristic of the beginning of the New

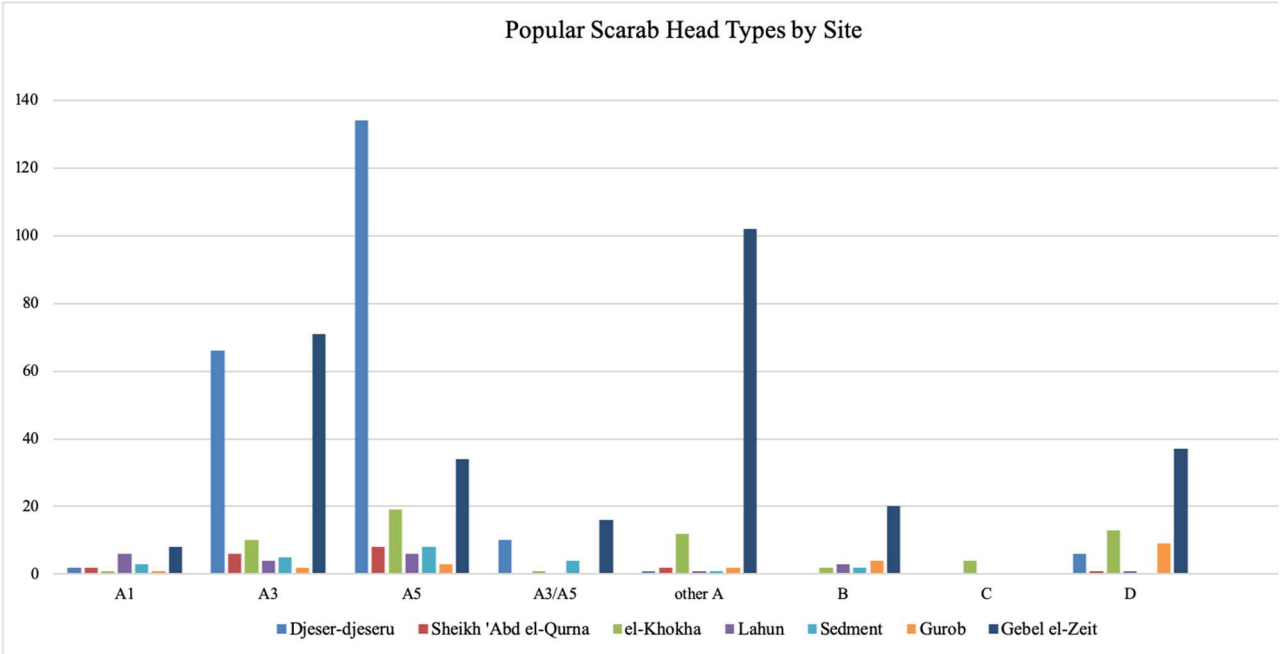


Figure 5.4: Chart depicting the usage of each popular scarab head type by site.

Kingdom. The reason for the rapid rise in usage of this type after centuries of disuse may at first seem a bit puzzling. It is likely that the lunate head was revived in the early Eighteenth Dynasty as a way to turn focus away from the dominant Hyksos and Canaanite made scarabs of Second Intermediate Period and draw similarities with the trends of the Theban powers of the late First Intermediate Period and early Middle Kingdom (Ben-Tor 2015: 140-141).[120]

The clear majority of scarabs in the present corpus display A-type heads with 551 (84%) examples from the total 653 scarabs with known head types (figs 5.3 and 5.4). Out of these 551 A-types, twenty-three display the A1 simple lunate head, 164 are of the A3 type, 212 are A5, and a further thirty-one are either A3 or A5 with a faded double line. Furthermore, sixteen scarabs display the A4 type of a simple lunate or kidney-bean shaped head with a horn, four are of the A6 type, a similar style to A4, and three more are the A8 type, which shows a 'double lunate' head (a small lunate shape within the larger lunate-shaped head) (fig. 5.2 and Appendix B, 1). Finally, ninety-eight of the scarabs display A-type heads of which the exact sub-type is unknown, however they clearly demonstrate the lunate shape.

Ward (1994: 197) believed that A1 was the most popular lunate head in the early Eighteenth Dynasty followed by A3 and finally A5. This conclusion does not accord with the data in the present study. Just examining the scarabs utilised by Ward (1987; 1994) and Tufnell (1984) to demonstrate scarab characteristics of the early Eighteenth Dynasty, it is evident that A5 was the most popular of the three

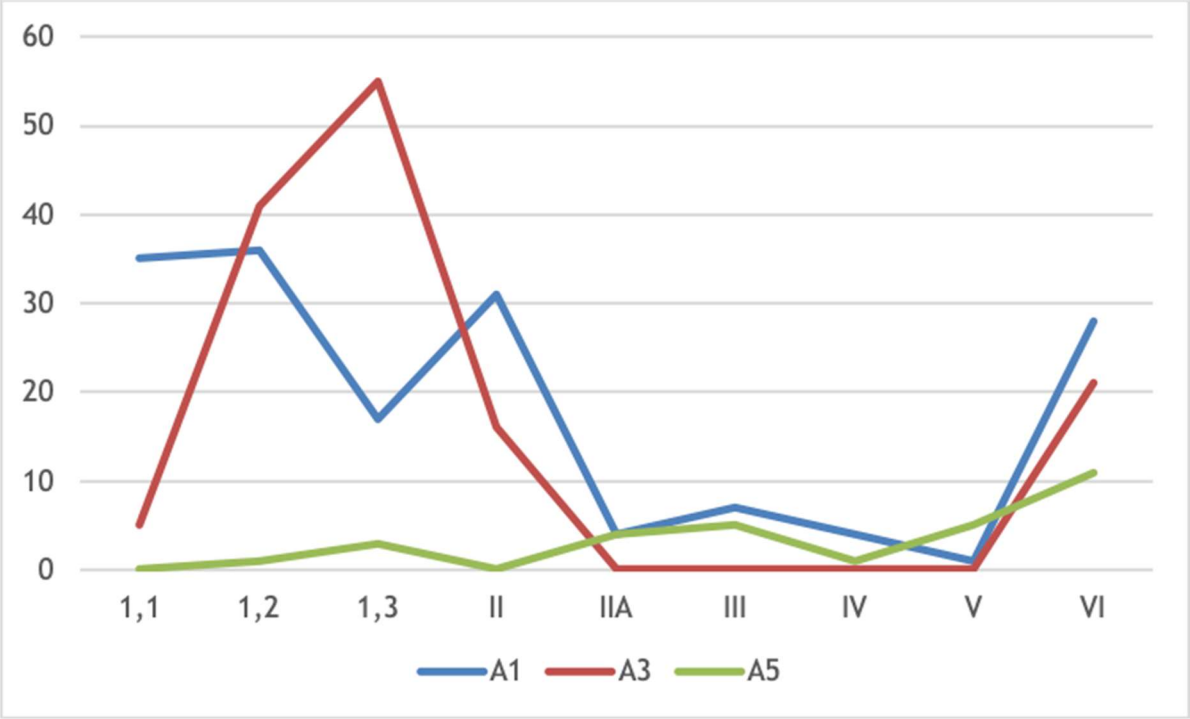


Figure 5.5: Chart after Ward (1994:197) demonstrating the popularity of various lunate (A) head types. 1,1 corresponds with the early First Intermediate Period, II is the Twelfth Dynasty, V the Fifteenth Dynasty, and VI corresponds with the early Eighteenth Dynasty.

[120] See the complete discussion on archaism in seal amulets of the Eighteenth Dynasty in Chapter 7.1.1.

types rather than the least popular during this period.[121] Although it must be noted that the Tomb of Maket scarabs are fairly evenly split between A1, A3, and A5, A5 remains the most popular. While in general, the A type head was not as popular in the Gurob burials as in some of the later tomb groups, A5 was still the most popular lunate head. In fact, there are only three A1 heads from the Gurob assemblages studied by Ward (Brunton and Engelbach 1927a: pls. 22-24; Ward 1987: 514). Furthermore, this trend continues for most of the scarabs in the present corpus.

All but four of the Tomb of Maket scarabs display A-type heads (83%) with A5 as the most popular sub-type, followed closely behind by A1 and A3. Dating from predominantly the late Seventeenth Dynasty to early Eighteenth Dynasty, Tomb CC 41 at el-Khokha only has nine (out of thirty) clear examples of A-type heads. This is due to a combination of very worn scarabs in which the head types are difficult to ascertain, as well as the multiple late Second Intermediate Period seal amulets in the tomb.

Tomb CC 37 at el-Khokha, which dates to the early Eighteenth Dynasty, predominantly during the reign of Thutmose II, has all but one scarab displaying an A-type head. Again, A5 is the most popular type of head with twelve of the total twenty-six scarabs from within the tomb. Six more scarabs from the tomb display A3 type heads and four are of other lunate sub-types. The Tomb of Neferkhawet at el-Khokha, on the other hand has the A4 style of head (kidney bean shaped with a single horn) as most popular. Interestingly this is mostly on scarabs made of faience. Those made of steatite generally favoured the more traditional lunate head shapes (A1, A3, and A5).

Tomb 1723 and 1728 at Sedment, which date to the joint reign of Hatshepsut and Thutmose III, follow the trend with 91% of the heads in the A-type. Only three scarabs display the A1 style, whereas five display the A3 and eight display the A5 style and a further four are either of the A3 or A5 but are not possible to discern between the two sub-types due to wear and glaze pooling.

Alternatively, the tombs at Gurob do not follow this trend. Only 36% of the scarabs display the lunate head. This could be explained due to the tombs dating to the start of the Eighteenth Dynasty, during the reign of Amenhotep I when other styles of heads were still popular (including the D-types, see Chapter 5.1.1.1.4, below).

The Tomb of Hatnefer and Ramose at Sheikh ‘Abd el-Qurna, which dates from either the reign of Thutmose II or early on in the joint reign of Hatshepsut and Thutmose III has eighteen of its nineteen scarabs displaying the lunate head of Type A. Eight of the scarabs have A5 heads, six have A3, but only two display the plain lunate head of A1.

The scarabs from the foundation deposits at *Djeser-djeseru* at Deir el-Bahri follow this trend but to a further extreme. 210 out of the total 219 scarabs at Deir el-Bahri possess the lunate A-type head.

[121] These scarabs are from the Tomb of Maket at Lahun (in the corpus) and those from select tombs at Gurob (Brunton 1927a: pls. 22-24).

Only three or four of the 210 are of the A1 sub-type, whereas 125 of the scarabs are of the A5 sub-type, sixty-nine of the A3 sub-type, and a further ten are either A3 or A5 heads.

A total of 201 of the Gebel el-Zeit scarabs with known head types (total of 257) possess A-type heads. For sixty-eight of these scarabs, it is too difficult to tell which sub-type of the lunate head they possess. The majority of the distinguishable lunate sub-types is A3 with seventy examples, a further fifteen are either of A3 or A5 type, and only eight belong to the A1 sub-type. In contrast with the previous mentioned sites, Gebel el-Zeit only has thirty-three scarabs displaying A5 heads, less than half the number of A3 types. Interestingly, all of the scarabs with A5 types date to the early Eighteenth Dynasty, to the reign of Thutmose III at the latest. Perhaps this is evidence that the A5 type experienced a dramatic peak in popularity in the early Eighteenth Dynasty and then decreased in usage while the similar A3 sub-type remained popular throughout the dynasty. However, more data is necessary from later in the dynasty to create more definite conclusions.

While the lunate heads, particularly A1, A3, and A5, were especially popular in the Eighteenth Dynasty, all of the aspects of a scarab must be examined before proposing a date. For example, scarab **778**, from the Tomb of Maket at Lahun, is a very small scarab with a high profile (10mm by 8mm by 8mm) that also has the A1 style head. The features of this scarab (which include c3 legs and Type II back, see below) are fairly commonly seen in the early Eighteenth Dynasty; however, the small size of the scarab coupled with its high profile and base design that is uncommon in the Eighteenth Dynasty (base design 1D of solitary scarab beetle), creates a date in the second half of the second millennium BCE difficult. Instead Ward (1994: 196) dated this scarab to be from the First Intermediate Period (late Eleventh Dynasty, to be exact) and showed three parallel examples from Qau and Badari that also date to the First Intermediate Period (Brunton 1927b: pl. XXXIII 159, 165, 166; Ward 1978: pl. VI, 153-155).

If this scarab does in fact date to Ward's proposed date of the late Eleventh Dynasty (roughly five hundred years prior to the start of the Eighteenth Dynasty), then its presence in the Tomb of Maket can only be explained as it being an heirloom. Scarabs kept as heirlooms was not an uncommon phenomenon as there have been cases of scarabs staying, likely within families, for generations (Ben-Tor 1994; 2007: 32). However, it seems unfeasible for a scarab to stay within a family for five hundred years without ever being deposited with its owner in a tomb. An alternative scenario could be that the owner of scarab **778** found the scarab that had come from a much earlier burial (perhaps due to looting) and took the small scarab to the grave with him/her. Or that perhaps the scarab is just highly archaising with the size and base design, evoking the early Middle Kingdom. This archaising push on early Eighteenth Dynasty scarabs was a trend that will be discussed further in Chapter 7.1.1.

5.1.1.1.2. Open Heads – B-Type

The B-type, or 'open' head, appears similar to an hourglass in shape with no line marking the separation between the head and clypeus (fig. 5.2 and Appendix B, 1). Tufnell (1984: 34) noted that generally this style was not used in the Middle Kingdom as the craftspeople generally separated the head from clypeus from that period onwards. Ward (1987: 510) found that the B-type heads reached their peak in the Thirteenth Dynasty for both royal name and design scarabs and remained fairly popular in the early Eighteenth Dynasty as the second most common head type after lunate. While the present study has determined that the B-type was only the third most popular head type for the whole of the Eighteenth Dynasty after the A and then D-types, the evidence from the early Eighteenth Dynasty agrees with Ward's findings as no D-type heads were discovered in the Tomb of Maket at Lahun, whereas five B-type heads were found there. It is likely then that the B-type had a sharp decrease in popularity in the middle to late Eighteenth Dynasty.

Thirty-one scarabs (5%) from the corpus display 'open' B-type heads, the majority of which, with eighteen examples, were discovered at Gebel el-Zeit (figs 5.3 and 5.4). The remaining examples are from the Tomb of Maket (**786**, **788**, **801**), the courtyard of Tomb CC 41 at el-Khokha (**333**), the Tomb of Neferkhawet (**283**), foundation deposits 7 (G) and 9 (I) at *Djeser-djeseru* (**001** and **002**, respectively), Tombs 26 (**853**) and 27 (**857**, **863**, **874**) of Gurob, and two from Tomb 1728 at Sedment (**816**, **825**).

The majority of these scarabs appear to date to the early to middle Eighteenth Dynasty, evoking a similar archaising trend as seen on the scarabs with A-type heads. However, one example from Gebel el-Zeit dates from the very end of the dynasty. Scarab **506** displays a simple B-type head, likely B2 ('hourglass' outline with no visible horn) but its base, which is partially broken, is distinctly inscribed with the praenomen and nomen of the penultimate ruler of Eighteenth Dynasty, Ay.[122]

5.1.1.1.3. Square Heads – C-Type

Only four of the scarabs possibly have square or C-type heads (>1%) (fig. 5.2 and Appendix B, 1). The reason for this ambiguity is due to the visual similarities between square and trapezoidal heads and therefore these four scarabs may just be trapezoidal, D-type heads.

Ward (1987: 510) demonstrated that C-type heads were generally a fairly unpopular choice amongst scarab producers but were most popularly used on design scarabs during the First Intermediate Period until the early Middle Kingdom but still were not characteristic of the period. Although the type was never common on design scarabs, Tufnell (1984: 31) noted that the C-type was the head type of choice for scarabs inscribed with the names of royalty of the Thirteenth Dynasty.

[122] See below, Chapter 5.2.3.10 for further discussion on the solitary scarab inscribed with the names of King Ay.

All four possible C-type heads are from Tomb CC 41 at el-Khokha (fig. 5.4). Furthermore, they are all from burials within Pit 2 with three (**336**, **337**, **339**) on the body of burial C1, and the last, an unfinished green jasper heart scarab (**353**) on the body of burial D3. The three examples from the burial C1 are all of faience and were found together with scarab **338** on a string. The bodies of these four scarabs are fairly weathered and worn and thus definitively assigning scarabs **336**, **337**, and **339** to a C sub-type, let alone conclusively placing them within the square type of head is not possible.

All four of the possible square head scarabs date to the early Eighteenth Dynasty.

5.1.1.1.4. Trapezoidal Heads - D-Type

The second most popular head type in the corpus, after the lunate A-type (see above), is the trapezoidal D-type with sixty-seven examples (10%; figs 5.3 and 5.4). The trapezoidal head was the least popular head choice in the First Intermediate Period but gradually grew in use over the Middle Kingdom and Second Intermediate Period reaching its peak of use in the Fifteenth Dynasty. Furthermore, the vast majority of Fifteenth Dynasty royal name scarabs display the D-type head. The head type saw a sharp decrease in use in the early Eighteenth Dynasty, however, with the A-type emerging as the head type of choice for the start of the New Kingdom (Ward 1987: 510).

The majority of scarabs displaying D-type heads come from Gebel el-Zeit, with thirty-seven examples (14% of known scarab head types from Gebel el-Zeit); however, most (57%) of these examples appear to date from the Second Intermediate Period, with only seven examples likely dating to the early Eighteenth Dynasty.[123] Furthermore, at least six of the nine D-type heads from Tombs CC 37 and CC 41 at el-Khokha, and all four D-type heads from the Tomb of Neferkhawet all likely date to the Second Intermediate Period, specifically from the Seventeenth Dynasty.[124]

The D5 and D6 head types (fig. 5.2 and Appendix B, 1) are not seen in the corpus until slightly later in the early Eighteenth Dynasty, with one example in the Tomb of Hatnefer and Ramose and seven examples from the foundation deposits of *Djeser-djeseru* at Deir el-Bahri. Both of these contexts date to the reign of Hatshepsut, roughly 1479-1458 BCE.

It is notable that not a single scarab from the Tomb of Maket at Lahun, which dates to the beginning of the Eighteenth Dynasty, displays the trapezoidal, D-type, head. This fits in well with Ward's (1987: 510) findings that the D-type was less popular than the B-type (see above) in the early Eighteenth Dynasty. The popularity of this style appears to pick up later in the early Eighteenth Dynasty around the reign of Queen Hatshepsut. Juxtaposing this, there were seven scarabs from Tomb 27 at Gurob (dating to the reign of Amenhotep I) that had D-type heads, five of which with the D6 sub-type. An

[123] The rest date to the reign of Thutmose III or later.
[124] The date of these scarabs is based upon their overall features (including the 'Shesha' backs, see Chapter 5.1.1.2.2) and archaeological context (see Chapter 3.2.3 for further detail on the provenance of this assemblage).

explanation as to why similarly dated and geographically close tombs had this marked difference is lacking.

5.1.1.2. Back Types

Scarab back types range from highly schematic, virtually plain backs to very naturalistic backs with lines denoting the separation between the elytra, between the elytra and prothorax, and between the prothorax and head (fig. 5.6 and Appendix B, 2; see fig. 2.1 for the beetle anatomy). The back style of a scarab can be an important feature in determining the date and region of the seal amulet's production; however, they must be used in tandem with the other features of the scarab.[125]

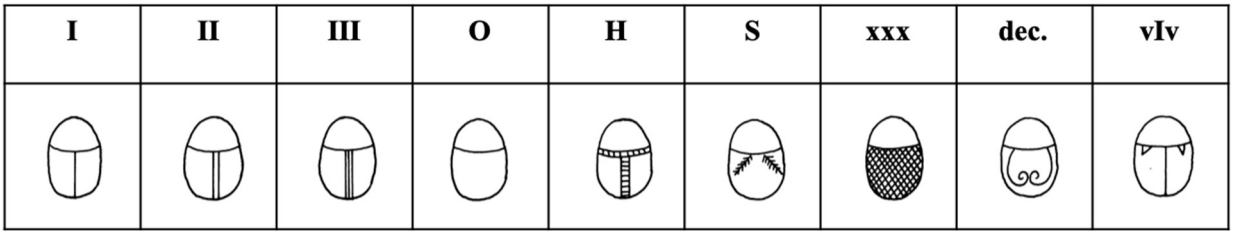


Figure 5.6: Scarab backs by type (after Tufnell 1984: 35).

680 of the 687 scarabs in the corpus have visible back types. The other seven are indiscernible either due to breakage, extreme weathering of the scarab, or lack of availability for examination.

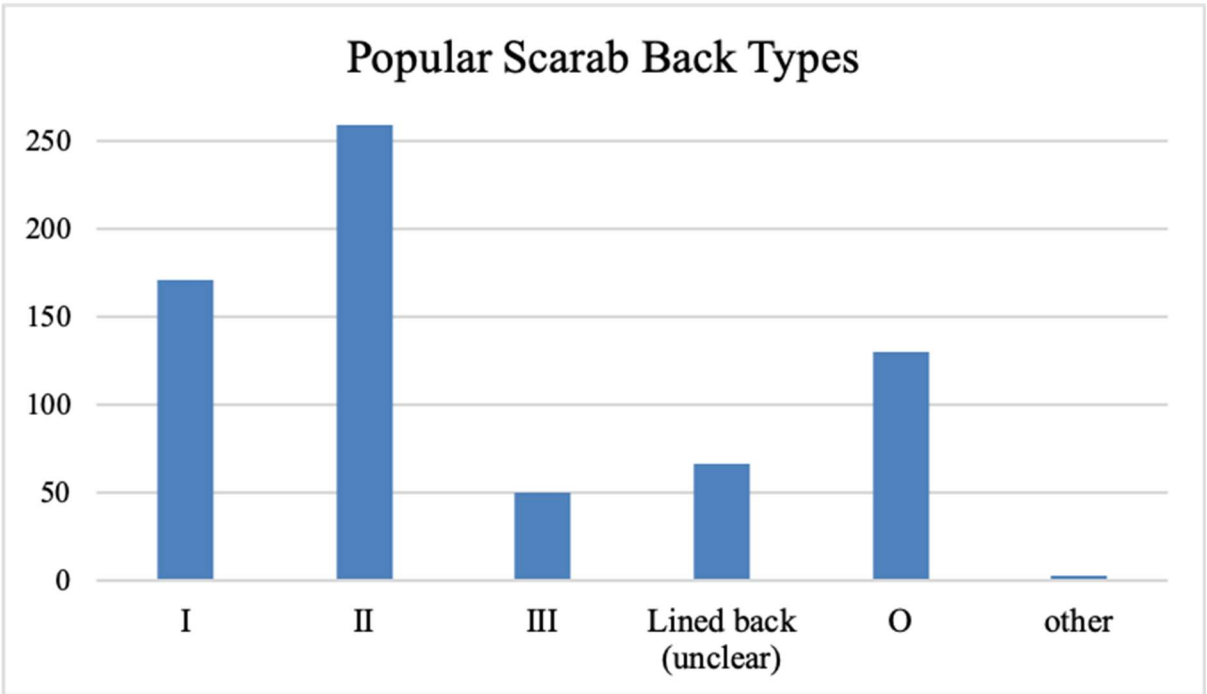


Figure 5.7: Chart depicting number of occurrences of popular scarab back types in corpus.

[125] A fundamental flaw of O'Connor's study of scarabs was that his research focused almost solely on the backs or the base designs of the scarabs while disregarding the heads, sides, and archaeological context (O'Connor 1974: 33; Ward 1987: 508, fn. 5).

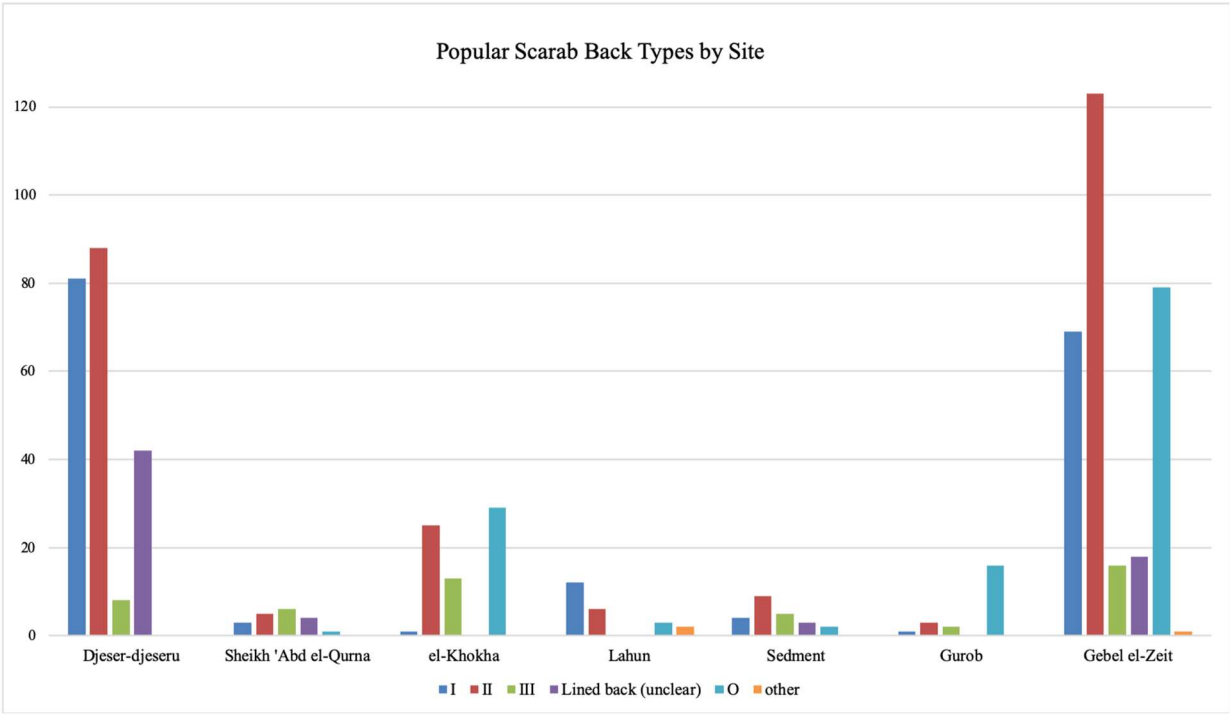


Figure 5.8: Chart depicting the usage of each popular scarab back type by site.

5.1.1.2.1. Lined Backs

Backs that display lines marking the separation of the head from prothorax, prothorax from elytra, and elytra from each other (fig. 5.6 and Appendix B, 2) are the most commonly seen back types in most periods of ancient Egyptian scarab manufacture (figs 5.7 and 5.8). Ward (1987: 510) noted that lined backs were visible on nearly 100% of the scarabs in the First Intermediate Period but that the more schematic, unlined backs (see below) emerge in the Twelfth Dynasty, overtaking the lined backs. Very few design scarabs in the Second Intermediate Period display lined backs, whereas they remained the favourite for Thirteenth Dynasty royal name scarabs.

Tufnell (1984: 34-35) noted three main types of lined backs – Type I has a single line separating the elytra, Type II has a double line separating the elytra, and Type III bears a triple line (fig. 5.6 and Appendix B, 2). Another type of lined back, Type H, displays a 'ladder' back, a back type with a double line marking the separation of elytra and elytra from prothorax with crossbars connecting the double lines. This type is visible on scarabs from the late First Intermediate Period but is rarely seen afterwards and is not visible on any of the scarabs in this study.

Tufnell's final lined back type is Type vIv, which is a back with one or more lines separating the elytra, with the addition of 'humeral callosities' (fig. 5.6 and Appendix B, 2). Humeral callosities, a term originally used by etymologists to describe the beetle's shoulders, are 'V' shaped marks shown on the outer edge of each elytra (Tufnell 1984: 36). Although this feature is prominently visible on the insects, it is not depicted on the seal amulets before the mid second millennium BCE. Humeral callosities are very rarely seen on scarabs at the end of the Second Intermediate Period but become

characteristic of Eighteenth Dynasty scarabs and they are often used as a dating tool (Ben-Tor 2015: 142).[126] Type vIv was not used in the present study, however, the amount of each Type I, Type II, and Type III that display humeral callosities was noted.[127]

The exact amounts of each type of lined back can be difficult to determine. This is due to the common occurrence of glaze pooling in the recesses created by the carved backs where the glaze has obscured a visual identification of whether the back has a single, double, or triple line; these cases will also be noted.

Of the total 680 scarabs with identifiable back types, 171 are Type I with a single dividing line, 259 are Type II with a double dividing line, and only fifty are definitively Type III with a triple line (figs 5.7 and 5.8). A further sixty-seven scarabs have lined backs, in which the exact number of lines is indistinguishable. Therefore, a total of 547 of the 680 scarabs with known back types are of the lined type (80%).

There does not appear to be any strong chronological correlation between the three main back types and the specific date within the Eighteenth Dynasty of the scarab. Type I was most popular with ten out of fifteen examples at the Tomb of Maket. Nine of the Tomb of Maket scarabs have the humeral callosities depicted. Alternatively, the tombs at el-Khokha, which all also date to the early Eighteenth Dynasty only have one Type I example (from the Tomb of Neferkhawet) and rather have twenty-four Type II examples and eleven Type III examples.[128] Very few of the el-Khokha scarabs display humeral callosities; in fact, only two of the Type II scarabs have the V-shaped marks and the solitary Type I also bears the Eighteenth Dynasty diagnostic features. The other twenty-nine scarabs were carved without the feature. Similarly, the early Eighteenth Dynasty tombs at Gurob had only one Type I backed scarab but three and two Type II and III scarabs, respectively.

The lined-back scarabs of the Tomb of Hatnefer and Ramose at Sheikh ‘Abd el-Qurna are fairly evenly split between Types I, II, and III with only three of the nineteen examples bearing humeral callosities (of Types II and III). 193 of the scarabs from *Djeser-djeseru* display Type I and II backs whereas only eight are of Type III.[129] Of these 219 lined back scarabs from the foundation deposits, over 40% depict humeral callosities (95 examples total). Dating from roughly the same period, the tombs at Sedment had eight scarabs with the Type II backs, whereas only four and two of the Type I and III backs, respectively and three possible Type I or II backs. Furthermore, only one of the Type II backed scarabs and one of the possible Type I or II bore humeral callosities.

[126] One Second Intermediate Period scarab ring inscribed with the name of Fifteenth Dynasty king Auserre Apepi is unfortunately of unknown provenance (MMA 15.171) but displays humeral callosities.
[127] A further note is that scarabs without lined backs cannot have humeral callosities (which emerge from the line separating the elytra from the prothorax) but instead can have side notches (see Chapter 5.1.1.2.2).
[128] One further scarab from Tomb CC 37 at el-Khokha is either Type II or III but the pooling of glaze along the dividing lines make identification not possible.
[129] A further eighteen examples from *Djeser-djeseru* could either be Type II or III but due to glaze pooling along the dividing lines, identification was not possible.

Of the 217 lined back scarabs from the sanctuary at Gebel el-Zeit Site A, the majority, with 117 examples, were of Type II, followed by sixty-six Type I scarabs. Very few of the lined-back Gebel el-Zeit scarabs display humeral callosities, in fact only twenty-four (11%) examples are known.[130]

5.1.1.2.2. Unlined/O-Type and 'Shesha' Backs

While not nearly as popular as the lined backs, a significant minority of scarabs with distinguishable back types displayed the plain, unlined O-type back (fig. 5.6 and Appendix B, 2). 130 examples of the O-type back were discovered at six of the sites in the corpus (figs 5.7 and 5.8).

Ward (1987: 510) remarked that unlined backs, O-type, were virtually nonexistent in the First Intermediate Period but grew in popularity in the Middle Kingdom. Then, the vast majority of design scarabs in the Second Intermediate Period display the unlined, O backs, especially the 'Shesha' sub-type (see below). While the lined backs were used for nearly all of Thirteenth Dynasty royal name scarabs, the unlined backs were used for the vast majority of scarabs bearing royal names of the Hyksos Fifteenth Dynasty. Ward observed that the O-type backs were still fairly popular in the early Eighteenth Dynasty with just a few less examples than the lined backs.

Three scarabs from the Tomb of Maket at Lahun display the O-type back (an early Eighteenth Dynasty assemblage used in Ward's study) and sixteen examples of O-type backs were discovered in Tombs CC 37 and CC 41 at el-Khokha, both latter tombs dating to the late Second Intermediate Period and early Eighteenth Dynasty. A further sixteen examples were found in Tombs 26 and 27 from Gurob; these tombs both date to the beginning of the Eighteenth Dynasty during the reign of Amenhotep I. Eleven examples of the O-type back were found in the Tomb of Neferkhawet at el-Khokha, a tomb that dates to the reign of Thutmose I or shortly after.

Only one O-type scarab was found in the Tomb of Hatnefer and Ramose from Sheikh 'Abd el-Qurna dating to later in the early Eighteenth Dynasty. Interestingly not a single scarab from the foundation deposits at *Djeser-djeseru* displayed an unlined back. These three contexts date to roughly the same period, from the reign of Thutmose II to that of Hatshepsut, and perhaps the O-type had fallen out of fashion by this time. This is echoed by the fact that only two scarabs have the unlined back from the tombs of Sedment; both burials dating to the early to mid-Eighteenth Dynasty.

Seventy-nine examples of O-type backed scarabs are known from Gebel el-Zeit, which is twenty-six percent of the total assemblage of scarabs from the Site 1 sanctuary. Most of these scarabs date from the late Second Intermediate Period to the early Eighteenth Dynasty, with only nine possible

[130] There are potentially another sixteen possible examples with humeral callosities from Gebel el-Zeit, however, the scarab bodies were too faded to determine whether or not the feature was present.

examples dating from the reign of Hatshepsut onward. The latest example is scarab **506**, which is inscribed with the name of the penultimate ruler of the Eighteenth Dynasty, Ay.[131]

At least 108 of the O-type scarabs bore the so-called 'Shesha' style of back (fig. 5.9).[132] This specific back is the combination of the O-type (i.e. no line delineating the elytra, or the prothorax from the elytra) and includes small notches on the sides marking where the division between the elytra and prothorax would normally be. The 'Shesha' type back was named by Petrie when he observed its frequent occurrence on Hyksos scarabs bearing the name of King Sheshi; in fact, the back type was almost solely used on Fifteenth Dynasty scarabs (Petrie 1917a: 6-7; Tufnell 1984: 34; Mlinar in Fischer and Sadeq 2002: 143). This distinct combination of features was also commonly used on Second Intermediate Period/Middle Bronze Age scarabs manufactured in Canaan (Boonstra 2014).[133]

Figure 5.9: Scarab **240** from the Tomb of Hatnefer and Ramose. The 'Shesha' back is the combination of an unlined 'O' back with side notches marking where the prothorax and elytra would normally meet (MMA 36.3.26).

Unsurprisingly, the many scarabs bearing the 'Shesha' type back were discovered in late Second Intermediate Period and early Eighteenth Dynasty contexts. This includes all twenty-nine O-type backed scarabs from el-Khokha. The single O-type scarab from the Tomb of Hatnefer and Ramose at Sheikh 'Abd el-Qurna is also of the 'Shesha' type.

At least sixty-two 'Shesha' back type scarabs are known from Gebel el-Zeit. The dates of the appearance of this sub-type accord with the dates of the Gebel el-Zeit O-type scarabs in general (see above), in which the majority date to the late Second Intermediate Period and early Eighteenth Dynasty with a few (eight) outliers dating to the mid to late Eighteenth Dynasty.

The contexts in which the 'Shesha' type scarabs were found predominantly date from the end of the Seventeenth Dynasty to the very beginning of the Eighteenth Dynasty. These scarabs are likely evidence of the lingering appeal of the 'Shesha' style back from the Second Intermediate Period.

[131] See below, Chapter 5.2.3.10 for further discussion on the solitary scarab inscribed with the names of King Ay.
[132] A further eight scarabs of O-type backs were too weathered and worn to determine if side notches were present.
[133] For example, see the Second Intermediate Period scarab corpora of Tell el-Dab'a (Mlinar 2004) and Tell el-'Ajjul (Boonstra 2014), which demonstrate the abundant use of the 'Shesha' style back. For example, 62% of the scarabs at UCL found at the Middle Bronze Age site of Tell el-'Ajjul were of the 'Shesha' type.

For the eleven 'Shesha' type scarabs that date from the reign of Hatshepsut to the end of the Eighteenth Dynasty, it is possible that these scarabs were instead heirloom scarabs and their date of manufacture was earlier than their deposition. However, it is just as likely that the style did not completely stop at the end of the sixteenth century BCE and that it rather was only sparingly used before completely dying out by the end of the Eighteenth Dynasty. For example, scarab **506**, which is inscribed with the praenomen of the ruler Ay, who dates to the end of the Eighteenth Dynasty, has not only a 'Shesha' back, but also a head type rarely seen in the Eighteenth Dynasty.[134]

Although a few scarabs with the 'Shesha' style back date to later than the earliest years of the Eighteenth Dynasty, they may demonstrate the final years of the appeal and use of the distinctive Second Intermediate Period style, which is generally thought of as synonymous with Hyksos and Levantine made scarabs (Tufnell 1984: 34; Keel 1995: 44-49). The clustering of its presence on Eighteenth Dynasty scarabs dating to the very beginning of the dynasty demonstrates that the style continued in use for a short period of time after the reunification of Egypt under Ahmose before decreasing in popularity, while new features (such as the humeral callosities on lined backs) and archaising features from the early Middle Kingdom (such as the Type II back) came into fashion (Ward 1994: 189, 195; Mlinar 2004; Ben-Tor 2007).

5.1.1.2.3. Other Back Types

Scarab **785** from the Tomb of Maket at Lahun displays a back type not seen on any of the other scarabs in the corpus. While the back is Type II depicting a double line separating the elytra, it also demonstrates characteristics of the S-type back, in that it has feathered markings on it (see fig. 5.6, Appendix B, 2, and fig. 5.10). Unlike the S-type backs shown by Tufnell (1984: 35), this example has the feathered markings at the tail end of the back, rather than immediately below the prothorax.

Figure 5.10: Scarab **785** from the Tomb of Maket displaying a Type II back with the addition of a 'feathered' line (from Type S) at the bottom of the right elytra (AN 1890.775). Photograph author's own.

[134] See below, Chapter 5.2.3.10 for further discussion on the solitary scarab inscribed with the names of King Ay.

A solitary scarab (**511**) from Gebel el-Zeit is of a peculiar, rare style. This scarab may technically be a lined-back scarab as there certainly are lines marking the separation of the elytra, prothorax, and head; however, deep recesses were cut hollowing out both elytra and the prothorax (fig. 5.11). In the hollowed-out recesses of the back, light hatch marks have been incised. This scarab is of a very rare back style with few known parallels. The style is somewhat reminiscent of an uncommon style from the Second Intermediate Period seen in Palestine, in which the back is O-type, but three recesses are cut, one below the head where the prothorax would be, and two over where the elytra would be. Only a total of eight examples, all from Palestine, are known.[135] These Palestinian scarabs are believed to have all once held inlays, perhaps of a glazed material; however, these possible inlays are missing in all examples (Fischer and Keel 1995: 138, 140-141; Keel 1995: 50; Boonstra 2014: 13). Perhaps scarab 525 also once held inlays that have since gone missing.

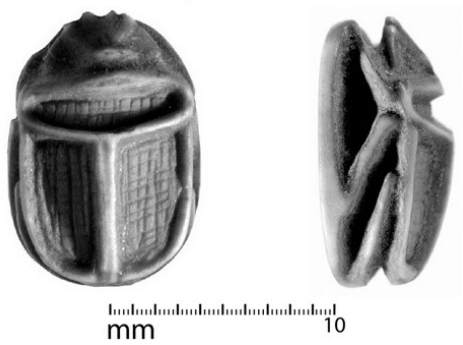


Figure 5.11: Scarab **511** from Gebel el-Zeit with its rare back type, in which the elytra and prothorax have been hollowed out, possibly for inlays (Régen and Soukiassian 2008: 186).

5.1.1.3. Leg Types

In many cases, scarabs would have their sides carved to resemble the six legs of the insect appearing to 'sit' upon the flat base, or sealing plate, of the seal amulet. However, in some instances the sides would be carved very schematically.

650 of the 687 total scarabs in the corpus have identified leg types. Tufnell (1984: 36-38) defines six main leg types in her scarab typology.[136] Leg type a is merely grooved with the legs not shown, type b has simple chip carved legs, and type c has chip carved legs that are hollowed. Tufnell remarked that these types were fairly standard in the First Intermediate period but were rarely used afterwards. The two types of most importance to the study of scarabs of the Middle Kingdom to Eighteenth Dynasty are type d, which are chip carved legs with a squared profile and in which the legs meet where the prothorax and elytra join, and type e, which is scored with a squared profile, and the legs

[135] For example, see scarab EXIII.61/10 from Tell el-'Ajjul in the Palestinian collection at University College London (Boonstra 2014: 13).
[136] The other with unidentified leg types are for a myriad of reasons, including wear, breakage, or the presence of a ring mount, which can completely cover the legs and obscure the leg type.

are shown by grooving, notching or fringing. A final type, type o is for completely plain unmarked sides.

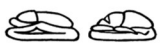
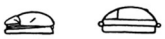
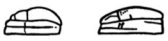
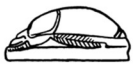
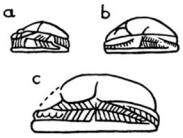
d1		**d9**		**e1**		**e9**	
d2		**d10**		**e2**		**e10**	
d3	free	**d11**		**e3**		**e11**	
d4		**d12**		**e4**			
d5		**d13**		**e5**			
d6		**d14**		**e6**			
d7		**d15**		**e7**			
d8				**e8**			

Figure 5.12: Scarab legs by types (after Tufnell 1984: 37).

For each of the five major leg types, there are up to fifteen subtypes (fig. 5.12 and Appendix B, 3). These subtypes differ based upon which of the six legs are notched or feathered, and where exactly on the scarab the legs meet. The differences between some of the subtypes are minute and it can be

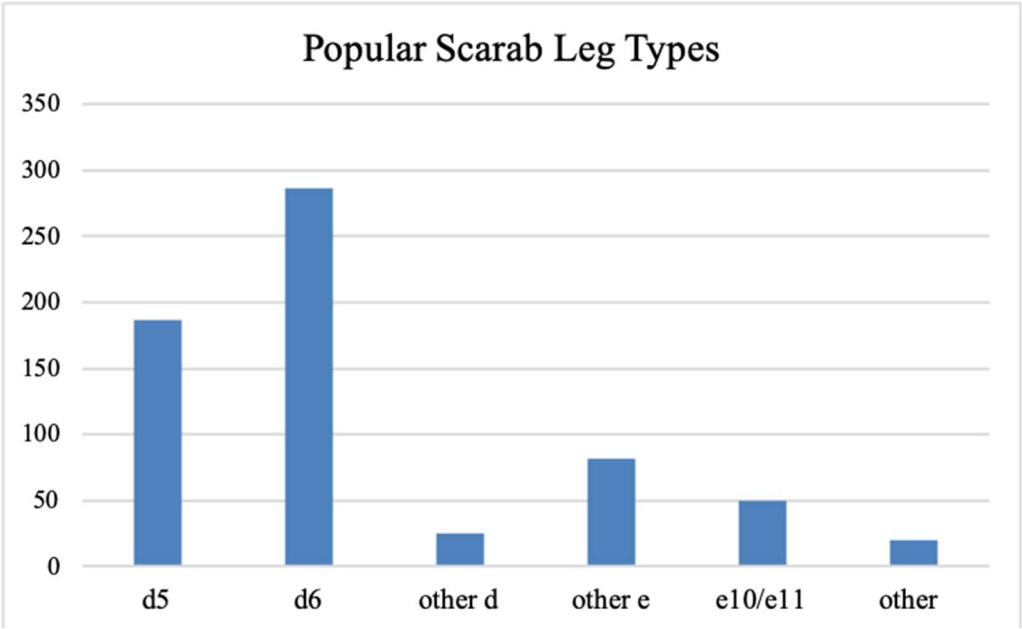


Figure 5.13: Chart depicting number of occurrences of popular scarab leg types in corpus.

very difficult to accurately place a scarab within its proper designation. Therefore, some errors may occur when using Tufnell's complicated leg typology.

Scarab legs, or profiles, are an important and often overlooked scarab feature. The sides are frequently unpublished in scarab catalogues and have been disregarded in many past scarab typological studies (Ward 1902; Hall 1913; O'Connor 1974; 1985). However, they are very important features for dating and were the primary characteristic used for determining the dates of First Intermediate Period and early Middle Kingdom scarabs due to the variety of styles (Ward 1978: 30; Tufnell 1984: 38).

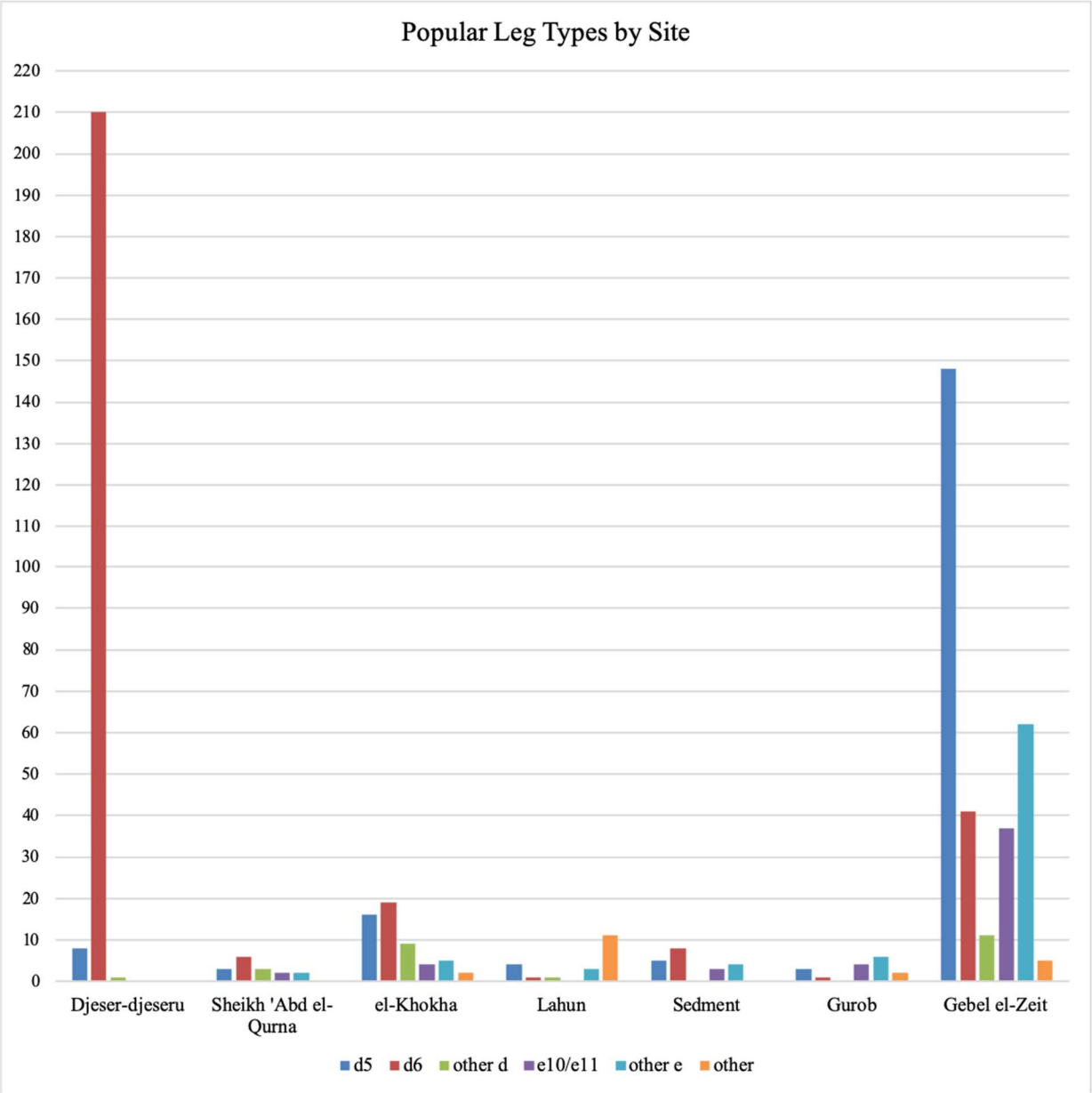


Figure 5.14: Chart depicting the usage of each popular scarab leg type by site.

5.1.1.3.1. d5 and d6 Legs

The d leg types were the most commonly used profile seen in the corpus with 498 of the total 650 scarabs (77%) with known leg types (figs 5.13 and 5.14). Side types d5 and d6 were the most popular style of beetle leg carving in the Eighteenth Dynasty with all but twenty-five of the 498 d leg style scarabs. Side types d5 and d6 are not seen before the start of the Twelfth Dynasty, at which point they, particularly d5, rise in popularity and are only second in popularity to the e8 to e10 legs. The d5 leg type remained popular throughout the Second Intermediate Period and into the early Eighteenth Dynasty. In fact, the majority of royal name scarabs from the Fifteenth Dynasty bear the chip carved, square based, un-notched leg type (Ward 1978: 30; 1987: 510; Tufnell 1984: 36; Mlinar 2004).

Side types d5 and d6 are fairly similar in composition, both being chip carved, with a squared base, and their legs meeting where the prothorax and elytra meet. The difference is that the scarabs with d5 side types have plain, smooth legs, whereas the d6 legs are notched (fig. 5.12 and Appendix B, 3). At least 187 scarabs in the corpus have the plain d5 legs, whereas 286 are of the d6 type.[137]

Three of the d5 leg type scarabs were found in the foundation deposits at *Djeser-djeseru*, another four each were discovered in the Tomb of Maket at Lahun and the Tomb of Hatnefer and Ramose at Sheikh ‘Abd el-Qurna, three each were excavated in Tomb 1728 of Sedment and Tomb 26 of Gurob, two were found in Tomb 1723 of Sedment, and a further eight are from Tombs CC 37 and CC 41 in the cemetery of el-Khokha. Another eight come from an interesting series in the Tomb of Neferkhawet at the same cemetery (Chapter 6.2.1.2). The majority, with 138 examples, are from Gebel el-Zeit. Most of these scarabs date to the early Eighteenth Dynasty up to and including the reign of Thutmose III and only twenty-nine examples date to the latter half of the dynasty.[138]

The d6 leg type, which was less popular than the d5 type in the First Intermediate Period and after (and therefore is seldom discussed in studies (Ward 1978: 30; 1987: 510; Tufnell 1984: 38)) was the most popular leg type in the study corpus with forty-four percent of the scarabs with known leg types bearing the notched, chip carved legs. An impressive 209 scarabs with the d6 side type were discovered in the foundation deposits of *Djeser-djeseru*. This means that all but ten of the scarabs deposited at the Deir el-Bahri mortuary temple of Queen Hatshepsut bear this particular style that was not commonly used in the years preceding.

Six of the scarabs from the Tomb of Hatnefer and Ramose from Sheikh ‘Abd el-Qurna also bear the d6 type of side. These scarabs predominantly date from the same period as the *Djeser-djeseru* scarabs (reign of Thutmose II-the joint reign of Hatshepsut and Thutmose III) and three of the six are even

[137] A further thirteen scarabs display either d5 or d6 leg types. Unfortunately, determining whether or not the legs are notched in these instances is not possible due to wear. All these scarabs date from the early to middle Eighteenth Dynasty.
[138] Including the scarab of Ay, no. **506** (Chapter 5.2.3.10)

inscribed with the names of Hatshepsut and her daughter Neferure (scarabs **236**, **237**, **271**). One of the scarabs (**238**) mounted on a gold ring appears to be an heirloom from the very start of the Eighteenth Dynasty and is inscribed with the name of Queen Ahmose Nefertari.[139]

Only one scarab from the Tomb of Maket displays the d6 side. The preference of d5 leg types over d6 at this tomb was deemed by Tufnell (1984: 106) to be a 'lack of attention to detail' by the craftsperson in omitting carving notches on the legs (d6 type). Only two examples of the d6 leg were found in the Tomb of Neferkhawet, with d5 favoured there. Five and three scarabs with d6 leg types were found in Tombs 1723 and 1728, respectively, of Sedment but only one d6 profile was found in Tomb 27 of Gurob. The seventeen examples of d6 legs from Tombs CC 37 and CC 41 and the Tomb of Neferkhawet at el-Khokha all date to the early Eighteenth Dynasty. The final forty-one scarabs bearing the notched, d6 leg type are from Gebel el-Zeit. Again, all of the examples appear to date from the early to mid-Eighteenth Dynasty.

Nine scarabs from Gebel el-Zeit appear to have the d1 leg type. This type (plain, chip-carved legs) (fig. 5.12 and Appendix B, 3) was also seen on scarabs from the Montet Jar, which likely dates to the early Middle Kingdom but were not characteristic of the assemblage (Tufnell 1984: 36, 38; Ben-Tor 1998).[140]

A further twenty-nine scarabs display an assortment of d leg sub-types. These leg types are d7, d8, d9, d10, d13, d14, and d15 and were found in the tombs at el-Khokha, the Tomb of Maket, Tomb 27 of Gurob, Gebel el-Zeit, *Djeser-djeseru*, and the Tomb of Hatnefer and Ramose. None of these styles appear to have been common at any point in the history of scarab production nor regionally specific.

5.1.1.3.2. Schematic Legs - e10 and e11

Fifty of the scarabs bear legs that are of the highly schematic e10 and e11 types (figs 5.13 and 5.14). The major contrast between e type legs and those of the d type is that e type legs were scored rather than chip carved (fig. 5.12 and Appendix B, 3). The e11 profile had the legs depicted by two grooves that ran around the circumference of the scarab. The e10 leg type was very similar to the highly schematic e11 but bear notched markings at the head and tail end of the profile. These leg types were very popular in the Second Intermediate Period, as can be seen at Tell el-'Ajjul (Boonstra 2014: 33-39) and in the Fifteenth Dynasty royal name scarabs (Tufnell 1984: 38). During the Second Intermediate Period, it appears that the e10 and e11 side types were often used somewhat

[139] It is possible that this scarab bears a different leg type as the gold bezel that it is set within partially obscures the profile; however, it appears to be the d6 style. See Chapter 5.2.3.1 for further discussion of the Ahmose Nefertari scarab.

[140] The Montet Jar, within which an assemblage of scarabs was found, has been the point of many seal amulet discussions. This is in regard to the date of the scarabs within, the date of the jar, and the date of the deposition and has been used by many scholars, including Tufnell (1984) and Ward (1978) as the chronological starting point for their scarab typological studies.

interchangeably, at least in Palestinian contexts (Mlinar in Fischer and Sadeq 2002: 149; Boonstra 2014: 33)

Only six examples of the e10 leg type were found in the corpus, two from Gebel el-Zeit (**770**, **773**), two from Tomb 27 at Gurob (**863**, **864**), one from the Tomb of Neferkhawet (**290**), and another from Tomb CC 37 at el-Khokha (**316**). All six scarabs likely date to the Second Intermediate Period, as evidenced by the 'Shesha' backs borne by all but the Neferkhawet example, a style evocative of the Second Intermediate Period (see above), trapezoidal heads, which were most popular in the Fifteenth Dynasty, and the base motifs, including the characteristic 'Hyksos sides' (**339**) and *anra* formula (**339**).

Forty-four scarabs were carved with the simplistic e11 profile. These scarabs are predominantly from Gebel el-Zeit with two examples each from the Tomb of Hatnefer and Ramose and Tomb CC 41 at el-Khokha. Tomb 1723 of Sedment had two scarabs with the e11 profile, while Tomb 1728 of the same site and Tombs 26 and 27 of Gurob all had one scarab with the e11 profile. The majority of these scarabs were also carved with the 'Shesha' back type and trapezoidal heads. The base designs of most of these scarabs are also typical Second Intermediate Period motifs, including four examples of the *anra* 'formula', and at least one scarab carved with 'Hyksos sides' (Design Class 1F).[141] These scarabs likely all date to the late Second Intermediate Period and perhaps a few from the beginning of the Eighteenth Dynasty.[142]

Another eighty-two scarabs in the corpus bear other e leg types; these leg types are e1, e2, e4, e5, e6, e7, and e9. One each of these scarabs was found in Tombs CC 37 and CC 41, two examples were found in the Tomb of Hatnefer and Ramose, three from both the Tomb of Maket and the Tomb of Neferkhawet, five examples from Tombs 26 and 27 at Gurob, three from Tomb 1723 at Sedment, one from Tomb 1728 of the same site, and Gebel el-Zeit had sixty-two scarabs bearing miscellaneous e leg types. These types were noted to first be seen and used sparingly in the late First Intermediate Period with types e1 to e4 being the earliest used leg types of the scored, e variety but e5 and e6 were the characteristic types of the early Middle Kingdom Montet Jar (Ben-Tor 1998).

Leg types e4 and e5 were the most popular with forty-three examples. These two subtypes appear very similar, both with the groove only marked around the front portion of the profile and with the hind leg shown by a diagonal groove. The difference between the two subtypes is the vertical line carved on e4 where the prothorax and elytra meet (fig. 5.12 and Appendix B, 3). Their chronological significance is only known from the First Intermediate Period; however, nearly all examples in the corpus appear to date to the Second Intermediate Period to early Eighteenth Dynasty.

[141] For a full discussion of the peculiar *anra* motif, see Chapter 5.2.2.5.
[142] Ward (1987: 510) noted a few occurrences of the e11 profile on scarabs of the Eighteenth Dynasty but did not mention any of the other e types during the early New Kingdom.

5.1.1.3.3. Other Leg Types

The final eleven scarabs with distinguishable leg types display a mix of b and c profiles (figs 5.13 and 5.14). Two examples from Gebel el-Zeit display b3 and c1 sides, and the other nine scarabs are from the Tomb of Maket. These nine scarabs are of the b1, b3, c2, and c3 leg types. All of the Tomb of Maket scarabs date to the early Eighteenth Dynasty, however, the Gebel el-Zeit examples display other characteristics features of the middle Eighteenth Dynasty, from the reign of Thutmose III onward.

Both Tufnell (1984: 38) and Ward (1978: 30) stated that the b and c leg types were commonly used in the First Intermediate Period but largely fell out of use at the start of the Twelfth Dynasty. While neither comment on any Eighteenth Dynasty examples, Tufnell's description of the Tomb of Maket scarabs does note that a number of scarabs display the c3 type and a few bear other b and c profiles (Tufnell 1984: 110-114). It is evident from the data that a few scarabs in the early Eighteenth Dynasty were made using these First Intermediate Period characteristic side types.

5.1.2. COWROIDS

110 of the 876 seal amulets in the corpus are cowroids (fig. 5.1). Cowroids are seal amulets that are generally longer and narrower than scarabs. Their defining characteristic is the longitudinal ridge on the top of the back along the perforation. That domed back, which may be decorated or completely smooth, resembles a cowrie shell.[143]

Cowrie shells were popular in Egypt from the prehistoric times and were worn as jewellery and perhaps even as amulets, as well as were placed in votive deposits (Pinch 1993: 284-285). Pinch (1993: 198, 212; 1994: 107, 126) remarked that these cowrie shells were strung and worn over the pelvic region of women (possibly naked women) likely to protect the wearer's fertility.[144] Examples of these cowrie shell strands have been found in the burials of royal women from the Twelfth Dynasty (Aldred 1971: 191, 196; Pinch 1993: 212). Pinch (1993: 198, 217) posited that the cowrie shells were used for these girdles due to their possible visual similarities to either the female reproductive organs or the eye (fig. 5.15).

[143] Keel (1995: 78) noted that it is possible that the cowroid did not originally intend to imitate the cowrie shell and perhaps instead evolved from button seals, due to the earliest examples being more rounded in shape. However, the visual similarities between the shell and the seal amulet, especially those of Type III with the twisted cord back evoking the aperture (ridged opening) of the cowrie shell, strongly link the seal amulets to the cowrie shell.

[144] In fact, Pinch (1993: 198) noted that some faience fertility figurines dating from the late Middle Kingdom to early Eighteenth Dynasty depict naked women wearing jewellery, specifically strands of cowrie shells across the torso. An example dating to the Middle Kingdom from the British Museum (EA52863) depicts a naked woman with what appears to be a painted-on cowrie-shell girdle around her hips (Pinch 1994: 126).

Figure 5.15: Back of a steatite cosmetic jar shaped as a kneeling girl wearing a cowrie-shell belt around her hips. Furthermore, the bottom of her plait is secured with a *tilapia* fish pendant. Thebes, Twelfth Dynasty (BM EA2572, CC BY-NC-SA 4.0).

Cowroid seal amulets are first seen in Egypt in the late Eleventh to early Twelfth Dynasty with many of the earliest cowroids being rounder than the classic long and narrow cowroid (Keel 1995: 78-80).

The four types of cowroid (fig. 5.16 and Appendix B, 4), based on back style are as follows:

> I. Cowroid with a completely smooth back
> II. Cowroid in which the base and back are clearly separated by a circumferential groove or a shoulder
> III. Cowroid with a snare or more often a notched line along the edge of the back
> IV. Cowroid with a decorated back
> (Keel 1995: 78, translated by author)

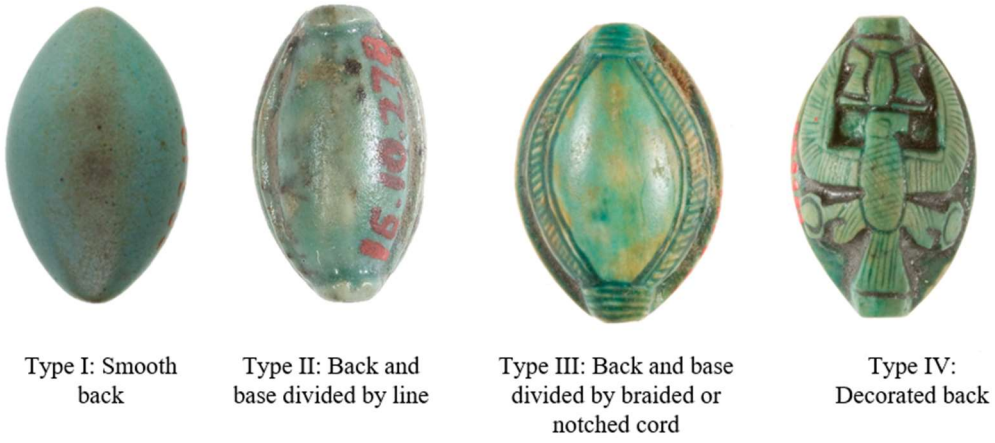


Figure 5.16: The four types of cowroid backs according to Keel (1995: 78).

The largest number of cowroids in the present corpus with fifty-five examples, are from Gebel el-Zeit with cowroids comprising 13% of the Gebel el-Zeit's total Site 1 seal amulet corpus. Perhaps

surprisingly, only thirteen cowroids were found in *Djeser-djeseru*'s foundation deposit, which amounts to only 5.5% of the foundation deposit's corpus of 234 seal amulets. Fifteen cowroids were found in the tomb of Hatnefer and Ramose, which amounts to 45% of the tomb's seal amulet corpus. Eight cowroids come from the Tomb of Maket at Lahun, which is 20% of the tomb's total seal amulet corpus. Nine further cowroids were found in various tombs in the Theban el-Khokha cemetery with one from the tomb of Neferkhawet (5% of the tomb's seal amulet assemblage), four from Tomb CC 37 (12.5% of the tomb's seal amulet assemblage), and three from Tomb CC 41 (9% of the tomb's seal amulet assemblage). Nine cowroids were excavated in Tombs 26 and 27 of Gurob; six from Tomb 26 (43% of the tomb's seal amulet assemblage) and three from Tomb 27 (14% of the tomb's seal amulet assemblage). Only two cowroids were found in Tombs 1723 and 1728 of Sedment, amounting to 7% of Tomb 1723's seal amulet assemblage and 8% of that of Tomb 1728.

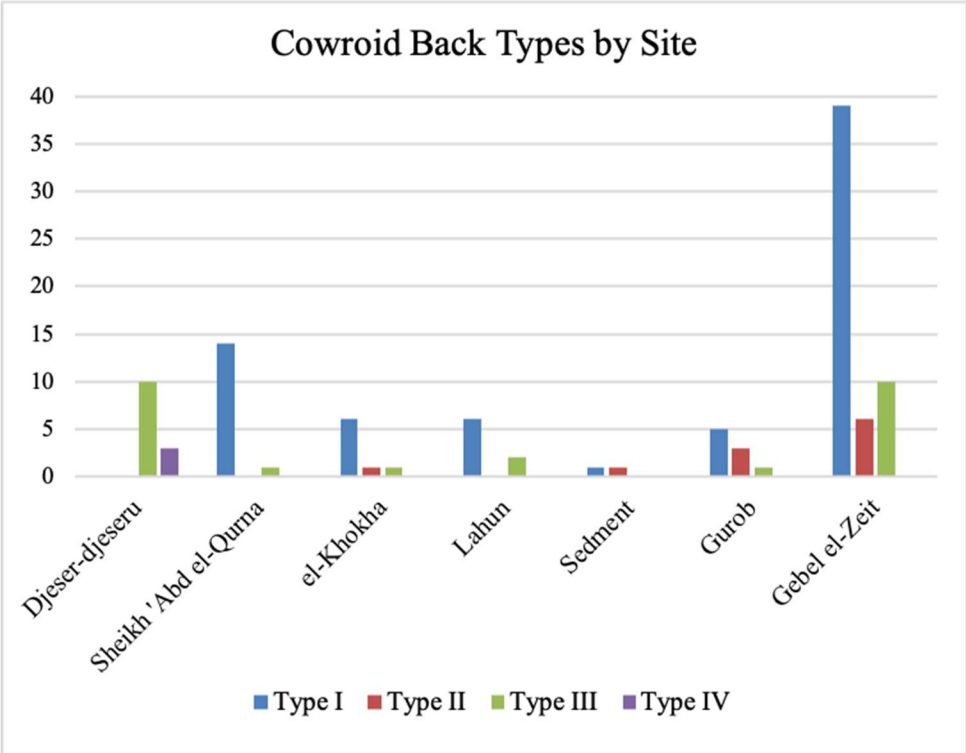


Figure 5.17: Chart depicting number of occurences of cowroid back types in corpus.

Unfortunately, far fewer studies have investigated cowroids and scaraboids than those examining scarabs and therefore Keel's typology (1995: 78) is integral for studying the cowroids of the Eighteenth Dynasty, even though his work focuses on those found in Palestinian contexts.

5.1.2.1. Type I - Smooth Back

The smooth back type of the cowroid is the most popular in the corpus with seventy-one examples (65%) (figs 5.16, 5.17, and Appendix B, 4).[145]

[145] There are a few other possible examples of Type I cowroids (**419**, **564**, **664**, **686**), however due to instances of weathered cowroids and poor-quality photographs there are a few cowroids whose types are unknown.

In Keel's study of one hundred cowroids found in secure Palestinian contexts (1995: 78), he noted that the smooth back style of cowroid was popular from the Middle Bronze IIB until the Late Bronze II period (roughly the Second Intermediate Period to end of the Eighteenth Dynasty). He also noted that the earliest cowroids in the Second Intermediate Period had a length to width ratio of 1.2-1.4:1, which made them nearly round. Later, from the very end of the Second Intermediate Period through to the mid Eighteenth Dynasty (roughly 1600-1400 BCE), the cowroids lengthened and narrowed and generally had a ratio of 1.5-1.6:1. Finally, from the end of the Eighteenth Dynasty Type I cowroids became even longer and narrower and achieved an average ratio of 1.8-2.2:1.

The Type I cowroids in this study range greatly in shape from the roundest at 1.1:1 to the narrowest at 2.2:1. The average dimension ratio is 1.5:1, which fits with those Keel posited for cowroids dating to the early to mid-Eighteenth Dynasty, as most of the corpus of seal amulets are believed to date to that time based on style and find contexts.

The cowroids from Gebel el-Zeit were overwhelmingly of the Type I variety with at least thirty-nine of its fifty-five (71%) cowroids displaying the smooth type of back decoration.[146] The average dimension of the cowroids is a length to width ratio of 1.5:1 with the roundest cowroids (**519**, **654**, **677**) at 1.1:1 and the narrowest cowroids (**424**, **710**) at 1.9:1. This range in size is not too surprising considering the date range of the seal amulet deposition at the site (see Chapter 3.2.7 for more information regarding the dates of the seal amulets at the site). The base motifs for the five cowroids at each end of the size spectrum are all typical of the Eighteenth Dynasty but are not particularly specific to a certain reign or part of the dynasty; therefore, by using the size of the cowroids, one can hypothesise that the nearly round cowroids (**519**, **654**, **677**) date from the early Eighteenth Dynasty, and perhaps even to the very end of the Second Intermediate Period and that the narrowest cowroids (**424**, **710**) date to the late Eighteenth Dynasty. However, it is always possible that these examples are outliers and that the craftspeople simply produced a seal amulet to a non-conforming shape for its period. In fact, the only Type I cowroid from Gebel el-Zeit that most strongly dates to the Second Intermediate Period (**642**) has a ratio of 1.5:1, which does not accord to Keel's (1995: 78) dimension typology. Keel states that cowroids from the Second Intermediate Period have a ratio of 1.2-1.4:1; however, cowroid **642** is only a centimetre outside the range. On the other hand, cowroid **384**, which the excavators dated to the broad range of the Second Intermediate Period to Eighteenth Dynasty (Régen and Soukiassian 2008: 144), is very round with a ratio of 1.2:1 and more likely dates to the Second Intermediate Period than the Eighteenth Dynasty due to the presence of the 'Hyksos sides' motif carved on the base (fig. 5.18). 'Hyksos sides' (Design Class 1F) were a lined motif that was most popular on Lower Egyptian seal amulets in the Second Intermediate Period and rarely seen on seal amulets outside of that period (Ward 1987: 523-524).

[146] A few of the cowroids that are believed to be Type II decoration may just be a weathered Type I, see above footnote.

None of the Type I cowroids from Gebel el-Zeit were engraved with royal names and the majority show typical Eighteenth Dynasty motifs, such as the *bulti* fish, Egyptian amuletic signs, and geometric motifs.[147]

All but one of the fifteen cowroids from the Tomb of Hatnefer and Ramose in the Theban cemetery Sheikh 'Abd el-Qurna have Type I backs. These cowroids have an average ratio of 1.6:1 but vary in shape from 1.4:1 (**252**) to the narrowest at 2:1 (**257**). The tomb is believed to have had successive burials in the middle Eighteenth Dynasty and was then sealed during the Seventh Regnal Year of Thutmose III.[148] Therefore, the average of 1.6:1 fits with the tomb's date of early to mid-Eighteenth Dynasty.

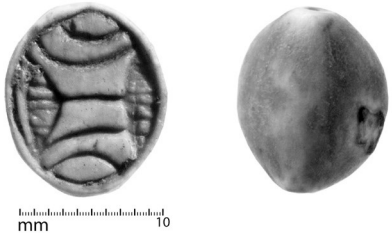


Figure 5.18: Cowroid **384** is nearly round and its base displays the common Second Intermediate Period motif 'Hyksos sides', the lined semi-circles visible on the left and ride side of the base plate (Régen and Soukiassian 2008: 144).

Four of the cowroids from the Tomb of Hatnefer and Ramose (**251**-**253**, **265**) had additional gold or silver ring bezels attached. These bezels could have functioned as a replacement for a decorated, Type III back. For example, the gold bezel of cowroid **265** (fig. 5.19) is decorated with sixteen (eight per side) purely decorative puncture holes that could have been an attempt to make the gold bezel and hematite cowroid appear to have a back decoration similar to Type III. The base designs of these Type I cowroids from the Tomb of Hatnefer and Ramose are all typical of the early to middle Eighteenth Dynasty, with two cowroids (**255**, **256**) that were discovered in a kohl jar inscribed with the nomen of Thutmose II.

Figure 5.19: The gold ring mount of haematite cowroid **265** is decorated with puncture holes, which may be in imitation of the Type III cowroids (MMA 36.3.48, CC0 1.0).

Three of the four Type I cowroids from Tomb CC 37 (**319**, **320**, **321**) in the el-Khokha cemetery were found together on the body designated Burial 78. The fact that these cowroids are of Type I is perhaps

[147] Base design motifs will be discussed in further detail below in Chapter 5.2.
[148] See Chapter 3.2.2 for further information about the archaeological context of the seal amulets from Sheikh 'Abd el-Qurna.

unsurprising considering they are all made of somewhat unusual materials – travertine, glass, and lapis lazuli. These cowroids range in dimensions from 1.1-1.7:1; due to them being manufactured of materials other than steatite or faience, it is possible that their sizes are less uniform. All three cowroids were set in gold ring bezels and perhaps their backs and bases were left undecorated because the combination of the materials, colours, and ring bezels acted as decoration enough. It is also possible that these cowroids were intended more as decorative jewellery than as amulets. The other two Type I cowroids from el-Khokha (**318** from Tomb CC 37; **356** from Tomb CC 41) have unknown exact widths. 332 appears to be typically of the early Eighteenth Dynasty with a lotus base design; however, from visual examination it is evident that cowroid **356** is quite round, which would make it more likely to date to the late Second Intermediate Period. This accords to the base design, which bears the 'Hyksos sides' (Design Class 1F).

Six Type I cowroids were discovered at the Tomb of Maket at Lahun (**782**, **789**, **798**, **806**, **813**, **814**). One typical Eighteenth Dynasty example (**782**) was found in the 'outer chamber', Chamber 1, of the tomb, was made of faience, and has a size ratio of 1.5:1. Most of the cowroids range in size from 1.5-1.6:1, although one cowroid from Coffin 1 (**814**) is narrower at 1.9:1. A much narrower cowroid (**789**), also of faience, has a ratio of 2.2:1, but unfortunately is undecorated and lacks provenance so it may have come from outside the tomb or was perhaps even purchased by Petrie.[149] Therefore it cannot beneficially contribute towards discussions on chronological or regional shapes or styles of cowroids.

Four Type I cowroids were found in Tomb 26 (**847**, **849**, **850**, **854**) and one from Tomb 27 (**869**) of Gurob. Two of the Tomb 26 cowroids were fairly round at 1.3:1, whereas cowroid **854**, which was engraved with the name of Amenhotep I, was narrower at 1.7:1. As the tomb is securely dated to the start of the Eighteenth Dynasty, it is possible that the rounder cowroids date to the late Second Intermediate Period. Cowroid **869** was made of red jasper and had a gold ring mount, which may have nullified the need for a decorated back. The solitary Type I cowroid from Sedment (**837**) appears to be of a typical mid-Eighteenth Dynasty dimension; however, the exact ratio is unknown due to no known width of the seal amulet.

Interestingly, not a single cowroid from the *Djeser-djeseru* foundation deposits was of Type I, in fact they were all Type III or Type IV. Perhaps this was a choice by the person(s) charged with selecting seal amulets for the deposits and that the more decorated backs were considered more aesthetically pleasing and thus more suitable for their intended context. Or perhaps these styles were simply more popular during the reign of Hatshepsut.

[149] For more information about how Petrie frequently purchased artefacts and included them in his publications and/or distribution lists, see Sparks (2013: 148-151).

5.1.2.2. Type II - Back and Base Separated by Groove

Type II cowroids were the second least popular type in the corpus with only eleven examples known (10%; fig 5.17).[150] Keel (1995: 79) made few remarks on the Type II cowroids and noted that they were also not very popular in Palestinian contexts (but rather make up only 16% of his studied cowroids). Keel dated two-thirds of the Palestinian Type II cowroids to the late Second Intermediate Period based upon their find contexts and base designs and noted that on average they range in size from 1.2-1.5:1; the few found in later contexts dating to the Twenty-Second Dynasty are much narrower with a length to width ratio of 2:1.

Two of the Type II cowroids (**355**, **407**) date to the early Eighteenth Dynasty at the earliest as they are inscribed with the praenomen of Thutmose I (**355**, from Tomb CC 41 at el-Khokha) and the name of Ahmose Nefertari (**407**, from Gebel el-Zeit) – both royalty of the early Eighteenth Dynasty. The size of cowroid **407** is a ratio of 1.5:1, which is at the top range of the late Second Intermediate Period cowroids and would therefore be of no surprise that Type II cowroids, like those of Type I, become longer and narrower over the course of the Second Intermediate Period to New Kingdom. The solitary Type II cowroid from Tomb 1728 at Sedment (**827**) would follow this paradigm as it has a ratio of 1.4:1 and dates to the early to mid-Eighteenth Dynasty. One very round cowroid (**851**) from Tomb 26 at Gurob has a ratio of 1.1:1. This tomb dates to the beginning of the Eighteenth Dynasty although the cowroid's dimensions are too round to fit neatly in Keel's typology.

Interestingly, three Type II cowroids (**419**, **664**, **686**) have base decorations of four concentric circles (fig. 5.20).[151] These cowroids range in size from 1.3-1.7:1; however, there are too few examples of Type II cowroids to create any definitive conclusions on dating based upon size as there is no concrete evidence that the sizes of Type II cowroids chronologically accord with the sizes of those of Type I.

Figure 5.20: Faience cowroid **664** appears to have a dividing line between its back and base (right) and has four concentric circles upon its base (features that cowroids **419** and **686** also have) (Régen and Soukiassian 2008: 239).

[150] Four cowroids (**419**, **564**, **664**, **686**) from Gebel el-Zeit appear to possibly have Type II backs; however, they may just be weathered Type I backs.
[151] See Chapter 5.2.2.6 for further discussion on concentric circle base designs.

5.1.2.3. Type III - Back and Base Separated by Notched Border

The second most popular cowroid type in the early Eighteenth Dynasty, based upon the present corpus with twenty-five examples, is the Type III cowroid (fig. 5.17).[152] These cowroids have the back and base separated by a thick border that is notched appearing similar to a twisted cord. Type III cowroids often also have double to quadruple lines ringing the perforation points, possibly mimicking metal bezels (which Type II may also be doing to a degree), in the Eighteenth Dynasty (as seen in fig. 5.16 and Appendix B, 4) (Régen and Soukiassian 2008: 138).

Type III cowroids were the most popular in Palestinian contexts comprising 40% of the total cowroids, as opposed to the 38% of Type I. Keel (1995: 78-79) remarked that the Palestinian Type III cowroids predominantly date to the end of the Second Intermediate Period based upon dimensions (1.2-1.4:1) and find contexts. He did, however, note some later Type III cowroids that date from the beginning to the end of Eighteenth Dynasty. Those from the early Eighteenth Dynasty generally have proportions of 1.5-1.6:1, whereas those from the late Eighteenth Dynasty lengthen and narrow to achieve proportions of 1.7-2:1.

The Type III cowroids in the present corpus average a length to width ratio of 1.5:1, which would fit with Keel's assertion of the Early Eighteenth Dynasty, as the majority of the cowroids from the foundation deposits of *Djeser-djeseru*, which were sealed off in the seventh or eighth regnal year of Queen Hatshepsut, display this back type.[153]

These ten cowroids out of the thirteen (77%) from the foundation deposits of *Djeser-djeseru* were of Type III. As was the trend of the seal amulet corpus from Queen Hatshepsut's mortuary temple, half of these cowroids display royal names.[154] Four of the Type III cowroids (**077**, **223**, **226**, **227**) are engraved with the praenomen or nomen of Hatshepsut, and a further cowroid (**228**) has the praenomen of Thutmose III, her nephew and co-regent inscribed upon the base. The other five Type III cowroids from *Djeser-djeseru* display common Eighteenth Dynasty motifs and on average have a length to width ratio of 1.5:1 fitting with Keel's typology for early Eighteenth Dynasty cowroids of Type III (Keel 1995: 79).

Ten Type III cowroids were found at Gebel el-Zeit Site A, which amounts to just over a quarter of the cowroids from that site. Unlike the Type III cowroids from *Djeser-djeseru*, those from Gebel el-Zeit display a wider range of proportions from a completely round cowroid at 1:1 (**507**) to a very narrow cowroid at 1.9:1 (**367**). The completely round cowroid **507** is a unique seal amulet (fig. 5.21).

[152] Although cowroid **222** also displays the notched border of Type III, it is not included in this tally because the fish decoration on the back was deemed by the author to be the predominant back feature compared to the border and it is therefore addressed as a Type IV cowroid in Chapter 5.1.2.4 below.
[153] See Chapter 3.2.1.3 for further discussion of the dates of deposition of the *Djeser-djeseru* seal amulets.
[154] Over half of the seal amulets from the foundation deposits of *Djeser-djeseru* were inscribed with the name and titles of Queen Hatshepsut. A further 16% of them were engraved with the names of Thutmose III and her daughter Neferure (Ben-Tor 2015).

Not only are its proportions unusual for a cowroid, but it also has a double notched border on its back. This seal amulet is still distinctively a cowroid due to its typical Type III features (the notched border and the lines ringing the perforation points) as well as its defining domed back along the perforation (see above 4.a.ii). While the proportion of this cowroid would suggest an early date (possibly even that of the late Middle Kingdom), the rosette carved upon its base is more evocative of the mid-Eighteenth Dynasty (Jaeger 1982: 172; Keel 1995: 184; Régen and Soukiassian 2008: 185).

Figure 5.21: Completely round cowroid **507** displays unusual proportions for a cowroid, as well as a double twisted cord border separating base from back (Régen and Soukiassian 2008: 185).

The rest of the Type III cowroids from Gebel el-Zeit largely display typical Eighteenth Dynasty motifs, including the name of Amun-Re, uraei, *wedjat* eyes, and floral motifs.

One cowroid each of Type III was discovered at the Tomb of Hatnefer and Ramose (**262**), Tomb 27 at Gurob (**860**), and Tomb CC 41 at el-Khokha (**354**). Two examples were excavated from the Tomb of Maket (**793**, **804**), Cowroid **793** from the Tomb of Maket is inscribed with the praenomen of Thutmose III and has a length to width ratio of 1.7; whereas cowroid **804** appears to bear a variation of the *anra* formula and has a ratio of 1.6:1. Cowroid **262** from the Tomb of Hatnefer and Ramose has a proportion of 1.7:1, which is typical of the mid to late Eighteenth Dynasty, according to Keel (1995: 80) and has the *bulti* fish engraved upon its base, typical of the Eighteenth Dynasty.[155] It is highly unlikely that this cowroid dates to the late Eighteenth Dynasty due to the general acceptance that the tomb of Hatnefer and Ramose was sealed during the seventh regnal year of Thutmose III (Lansing and Hayes 1937: 30; Hayes 1959: 81; Dorman 2005a: 92; see Chapter 3.2.2 for further discussion of the archaeological context). Perhaps this cowroid could then be evidence that cowroids, or perhaps just Type III cowroids, narrowed earlier than was seen in the Palestinian contexts (Keel 1995: 80), or that this cowroid is simply an outlier.

[155] See below, Chapter 5.2.2.2 for further discussion of the *bulti* fish base motif.

5.1.2.4. Type IV - Decorated Back

The decorated back type of cowroid, Type IV, only accounts for three of the 110 cowroids in the corpus (<3%; fig. 5.17), but is notable, nonetheless. All three examples were found in the foundation deposits of *Djeser-djeseru* (**222** in deposit 8(H), **221** in deposit 9(I), **233** in deposit 7(G)). Cowroid **222** contains the braided border of Type III but the top of its back is then decorated with the notable Base Design 9J depicting the *bulti* fish with lotus buds within the braided border.

Cowroids **221** and **233** are especially notable as their back designs appear nearly identical (fig. 5.22) depicting a falcon wearing the *atef* crown with its wings outstretched and its talons clutching *shen* rings. These cowroids appear to have been carved by the same craftsperson, perhaps at a Theban workshop. Due to the similar nature of the backs of these cowroids, yet differing bases (in both style and quality), it is possible that one craftsperson carved the backs of these cowroids and perhaps an array of cowroid, scaraboid, and scarab backs, while one or more other persons carved the bases.[156]

These three seal amulets with animals carved onto their backs are still definitively cowroids (rather than figure scaraboids, see below) as they still have the characteristic cowrie shape (pointed oval) with a domed back (Keel 1995: 80-81).

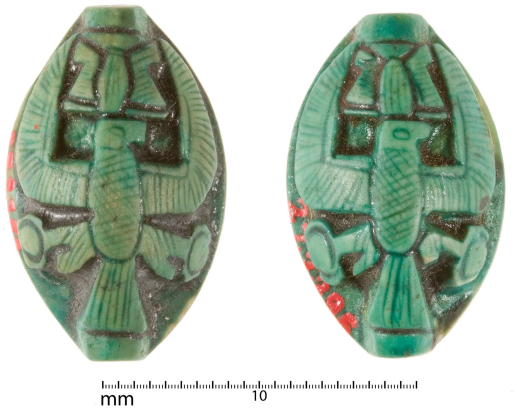


Figure 5.22: Cowroids **221** (left) and **233** (right) from *Djeser-djeseru*'s foundation deposits 9(I) and 7(G), respectively. The nearly identical carvings of falcons on their backs alludes to carving by the same craftsperson (MMA 27.3.164, 27.3.396 CC0 1.0).

In general, Type IV cowroids are quite rare. From Palestinian contexts, Keel (1995: 80-81) described two distinct sub-types of decorated back Type IV cowroids; those with backs decorated as rosettes, and those with backs decorated with hatched lines. Both of these types date exclusively to Middle Bronze IIB contexts (concurrent with the late Second Intermediate Period). Keel (1995: 80) did note one cowroid from a context dating to the early Iron Age, which roughly corresponds to the end of the Eighteenth Dynasty and early Nineteenth Dynasty, that appears to have its back decorated as a uraeus; however, it is too damaged to definitively ascribe to a design. Its base motif is that of a papyrus skiff, which was fairly common in the Eighteenth Dynasty[157] and thus this cowroid may in fact represent

[156] See Chapter 6.2.1.1 for further discussion regarding this Theban workshop.
[157] Seal amulets **229**, **340**, **581**, and **647**, all dating to the Eighteenth Dynasty, also display a papyrus skiff as part of their base motifs.

Eighteenth Dynasty Type IV cowroids with animals carved upon their backs (as do the Type IV cowroids in the present corpus).

5.1.3. SCARABOIDS

By definition, scaraboids are seal amulets with similar dimensions and proportions to scarabs but have something other than a scarab beetle carved upon its back. Therefore, there are a wide variety of scaraboids, including schematic scaraboids, figure scaraboids, with animals or humans carved on the back, and object amulet scaraboids, with an amuletic feature such as a *wedjat* eye carved onto the back. The primary difference between scaraboids and non-seal amulets is the inclusion of a 'sealing plate', which is the flat base carved with a design motif often similar to the motifs carved on scarabs from the same period. Keel (1995: 66) remarked that the sealing abilities of the scaraboids were generally less important than the amuletic properties, which appears to be commonplace for many seal amulets (see Chapter 1.2). Another defining difference between non-seal amulets and scaraboids is the lack of a suspension loop on scaraboids, which is a feature that separates amulets from figurines. Unlike figurines, scaraboids are still perforated, generally longitudinally, similar to scarabs or cowroids (Keel 1995: 63, 66).

5.1.3.1. Wedjat *Eye (*wḏ3t*) Scaraboids*

The most popular type of scaraboid in the present corpus with ten examples are scaraboids with the back carved (or painted in the case of scaraboid **660**) to depict the Eye of Horus, or *wedjat* eye. Pinch (1994: 109) noted that *wedjat* eyes were the 'archetypal amulet' and that even the ancient Egyptian word for amulet derives from it. *Wedjat* eye amulets were in use from the end of the Old Kingdom onwards and *wedjat* eye scaraboids were the most popular object amulet scaraboid in both Egypt and Palestine from the New Kingdom onward. *Wedjat* eye scaraboids were first seen in Egypt in the First Intermediate Period but do not appear in Palestinian contexts until the Late Bronze Age, concurrent with the New Kingdom (Keel 1995: 76).

Jaeger (1982: 175-177) created a typology for four different types of *wedjat* eye scaraboids, which are as follows:

A. A *wedjat* in the strict sense, i.e. one that is carved three dimensionally and which is open worked on the bottom
B. A *wedjat* that is carved in raised relief and is oval-shaped or rounded
C. An oval base with a *wedjat* eye that is in light relief [158]
D. The *wedjat* is engraved on the back of a domed rectangular base

[158] Jaeger (1982: 175) noted in the description of his *wedjat* eye scaraboid typology that it is difficult to establish a clear distinction between Type 2 and Type 3.

(Jaeger 1982: 175, translated and paraphrased by author)

Two *wedjat* eye scaraboids (**224**, **225**) were found in foundation deposit 7 (G) of *Djeser-djeseru* (fig. 5.23). Not only are these steatite scaraboids both Type B, the type in which the *wedjat* eye is carved in raised relief on an oval base, but they also strongly resemble one another in the colour of the glaze, the style of the carving, and the depth of the relief. Furthermore, the bases of both scaraboids are incised with *M3ʿt-k3-Rʿ mrj Jmn* 'Maatkare beloved of Amun'. The layout of the hieroglyphs differs between the two scaraboids with the *mrj* sign in different positions. The altering of the placement of the hieroglyphs does not necessarily denote a different craftsperson, however; it could be argued that the artisan neglected to leave enough room for the sign on one of the scaraboids and thus had to squeeze it in, a mistake that the craftsperson then remedied on the next *wedjat* eye base. However, this is pure speculation as to the cause of the differing placements of the signs. The similarities in the scaraboids cannot be ignored though, and the possibility of a Theban steatite seal amulet workshop will be discussed further in Chapter 6.2.1.1.

Figure 5.23: *Wedjat* Eye Scaraboids **224** (top) and **225** (bottom) from foundation deposit 7 (G) of *Djeser-djeseru* have similar features carved in raised relief. Furthermore they bear the same base inscription with only a minor variation, the placement of the *mrj* hieroglyph (MMA 27.3.251, 27.3.252, CC0 1.0).

Six more *wedjat* eye scaraboids of Type B were discovered in and around the sanctuary of Site 1 at Gebel el-Zeit (**362**, **489**, **526**, **638**, **675**, **752**). Three of the scaraboids were incised with royal names ranging from the beginning to the late Eighteenth Dynasty. Scaraboid 766 bears the name of Queen Ahmose Nefertari and scaraboids **675** and **489** bear the names of Amenhotep III and his wife Queen Tiye, respectively. The other three Type B *wedjat* eye scaraboids from Gebel el-Zeit are engraved with amuletic signs such as *nfr*, *w3s, and ʿnḫ*.

Interestingly, three of the *wedjat* scaraboids from Gebel el-Zeit (**526**, **638**, **752**) have the eye facing left, which is rare for the scaraboid type (and may be significant); however not for the amulets themselves.

Keel (1995: 77) noted that Type D *wedjat* eye scaraboids (*wedjat* eyes carved in slightly raised relief on rectangular plaques) are uncommon and not seen in Palestinian contexts until the Nineteenth Dynasty at the earliest but then become more popular in the Twenty-Fifth Dynasty. On the other hand, Jaeger (1982: 175-176) demonstrated that although Type D was largely unpopular for royal names of the Eighteenth Dynasty, there are nine examples of this type engraved with the name of Thutmose III. The only other royalty known to have this type of scaraboid are of the Ramesside Period and Twenty-Fifth Dynasty.

One Type D *wedjat* eye scaraboid (**390**) was found within the Stela Deposit of the sanctuary of Gebel el-Zeit. The eye is carved in raised relief on a rectangular plaque and the base is engraved with an incised *wedjat* eye facing left and a *nfr* sign all surrounded by a single line border. As the Stela Deposit has no date more specific than the Eighteenth Dynasty, it is difficult to say for certain from when this scaraboid dates; however, perhaps it also dates to the reign of Thutmose III in keeping both with the type's short usage in the Eighteenth Dynasty and with the peak of activity at Gebel el-Zeit.

A final *wedjat* eye scaraboid (**660**) from within the sanctuary at Gebel el-Zeit is an unusual one as it does not quite fit the typology proposed by Jaeger (1982: 175). The scaraboid is made of glazed steatite shaped as a roughly oval or rounded rectangular base and an arched back. Upon the smooth, convex back a *wedjat* eye was painted facing right. If forced to fit within the constraints of Jaeger's typology, this scaraboid would align closest to Type C (oval base with light relief); however, a painted smooth surface does not amount to light relief. Furthermore, Type C *wedjat* eye scaraboids are quite rare with Jaeger (1982: 175-176) only noting two examples (one of Thutmose III and one of Shabaka from the Twenty-Fifth Dynasty) and Keel (1995: 77) only discussing one found in Palestinian contexts.

Jaeger (1982: 176) remarked that the majority *wedjat* eye scaraboids engraved with royal names of the Eighteenth Dynasty were of the A Type with 69 of the 120 known. Oddly, none of the *wedjat* eye scaraboids in the present corpus were of Type A, the type that Keel (1995: 77) also stated was typical of the Eighteenth Dynasty.

5.1.3.2. Bird Scaraboids

Duck-shaped scaraboids were particularly popular from the early Eighteenth Dynasty; examples have been documented that are engraved with the names of royal women Ahhotep, Neferure, and Ahmose-Nefertari amongst other early Eighteenth Dynasty royal names (Jaeger 1982: 180). Ducks are thought to have had reproductive connotations for the ancient Egyptians, particularly those depicted with their heads facing their tails, and therefore they may have been carried as fertility charms (Hermann 1932: S104; Stoof 1992: 214-216; Pinch 1993: 287).

Seven scaraboids with their backs carved to resemble ducks can be found in the corpus. Keel (1995: 68) divided the known duck-shaped scaraboids into two main types. Type 1, which was typical of the early Eighteenth Dynasty has a seated duck carved in three dimensions with its head turned around facing its tail and resting on its back and folded wings. Type 2, which was less common and believed by Keel to date to the Nineteenth and Twentieth Dynasties with a few exceptions from the Eighteenth Dynasty depicts a duck lying on its side with its head turned around to face its tail and is carved quite flat.[159]

Figure 5.24: Duck scaraboid **323** (Type 1) from Tomb CC 37, el-Khokha is on a cartouche-shaped base although the cartouche does not contain a recognizable royal name (MMA 26.7.642, CC0 1.0).

Five duck-shaped scaraboids from Gebel el-Zeit (**585**, **622**, **623**, **635**, **715**) and one from Tomb CC 37 at el-Khokha (**323**) are of the three-dimensional type (Type 1) (fig. 5.24). The duck-shaped scaraboids are largely on oval or 'stela' shaped (rectangle with one end curved, resembling a stela) bases; however, scaraboid **323** from Tomb CC 37 is on a cartouche-shaped base, complete with the rope border engraved upon it (fig. 5.24). Within the cartouche are the signs *mn*, *nb*, and a papyrus umbel, which to the author's knowledge do not represent any known royal name. The base designs on the other examples are all of typical Eighteenth Dynasty motifs.

The final duck-shaped scaraboid is one of the Type 2 style from the tomb of Hatnefer and Ramose (**266**) (fig. 5.25). This scaraboid appears to have been made from frit rather than steatite or faience and is carved in a more abstract and less realistic fashion than the duck scaraboids of the three-dimensional type. The duck, with its impossibly long neck, more closely resembles a goose or a crane; however, it does appear similar to the 'duck'-shaped weights of the Third Intermediate Period

[159] Further exceptions are duck shaped scaraboids of this type dating to the first half of the first millennium BCE. These examples depict the duck resting on its side, similar to Type 2, but with a high base and are believed to be used as a weight (Keel 1995: 68).

onwards (Stoof 1992: 208-214). Furthermore, the only known bird scaraboids depict ducks, falcons, and vultures (Stoof 1992: 208-214; Pinch 1993: 286-287; Keel 1995: 66-76).

Figure 5.25: Duck scaraboid **266** from the Tomb of Hatnefer and Ramose is of the Type 2 variety, a type rarely seen in the Eighteenth Dynasty (MMA 36.3.40, CC0 1.0).

There are three other bird scaraboids in the corpus; one from the sanctuary at Gebel el-Zeit which certainly depicts a falcon (**575**), another from the same context that depicts an unknown bird, probably a falcon with its head missing (**540**), and another likely falcon shaped scaraboid from the Tomb of Maket (**799**) that is also missing its head. Pinch (1993: 286-287) posited that falcon figurines were likely intended to evoke the god Horus and perhaps were in contexts such as the sanctuary at Gebel el-Zeit due to Horus' relationship with Hathor, as consort.

Figure 5.26: Falcon scaraboid **575** has a well-carved back, yet crudely carved hieroglyphs of the praenomen of Thutmose I upon its base (Régen and Soukiassian 2008: 207).

The definitive falcon scaraboid (**575**) from Gebel el-Zeit is carved three-dimensionally with outstretched wings to either side of its body (fig. 5.26) and appears to be of Stoof's (1992: 213) Type VIIb 'Falcon, wings next to the body'. The falcon's head is slightly raised with its beak touching the perforation point and its legs are visible between the wings and the tail.[160] This scaraboid is carved

[160] For a back parallel see Hornung and Staehelin (1976: table 103, 914). This falcon from Basel is carved of lapis lazuli and is also shown with outstretched wings and head slightly raised. Unusually, instead of having a flat, engraved base (as one would see on a seal amulet), it has the 'naturalistic' base seen on some scarabs where instead of a sealing plate, the craftsperson has carved beetle legs folded under the body. This combination of back and base is an especially peculiar combination of falcon and beetle features.

in great detail demonstrating precision and quality, which is in direct contrast with the crude hieroglyphic carving on the base with the name of Thutmose I.

Figure 5.27: Bird scaraboids **540** (left) from Gebel el-Zeit and **799** from the Tomb of Maket closely resemble one another and both appear to be missing their heads (Régen and Soukiassian 2008: 196; AN1890.787a.D, photograph author's own).

Bird scaraboids **540** and **799** strongly resemble one another and depict a bird with its wings folded onto its back and its tail feathers splayed at its bottom end (fig. 5.27). Both examples show similar styles of carving with the feathers marked out with incised lines. On both bird scaraboids, a small 'nub' is left where the head should be. Tufnell (1984: 111) noted that the head was missing on the Tomb of Maket example (**799**). A parallel in Basel is quite faded but is also missing its head. Hornung and Staehelin believed it was once a duck's head (Hornung and Staehelin 1976: table 67, 602); however, the style of back lacks similarities to known duck scaraboids. Perhaps, a thin neck on these bird scaraboids made it common for the heads to break off from the body. Without a visible head, identification of the bird species is impossible; however, the back does not resemble a duck and the carving of the wings and legs resemble falcon figurines. Stoof (1992: 211) designated these scaraboids as Type III bird scaraboids. Stoof believed that the bird depicted was likely a duck and stated that the heads were intentionally depicted as 'nubs'. She noted that no breaks were visible and that the scaraboids had been glazed without the heads present. She further noted that these scaraboids do not appear to represent slaughtered birds.

Bird scaraboid **799** is engraved with the praenomen of Thutmose III and scaraboid **540** has typically Eighteenth Dynasty rosette motif. Due to the base motifs of these bird scaraboids and the parallel example in Basel which bears the base inscription of *Jmn-R'*, as well as the find contexts, it is very likely that these scaraboids date to the early to mid-Eighteenth Dynasty.[161]

5.1.3.3. Other Animal Scaraboids

Three scaraboids in the corpus were carved to resemble the *Tilapia nilotica* or *bulti* fish (**322** from Tomb CC 37, **516** and **591** from Gebel el-Zeit), a common fish found in the Nile and in

[161] See below, Chapter 5.2.2.1 for a discussion on the *Jmn-R'* motif, which can be seen on the Basel example.

representations in ancient Egyptian art (Brewer and Friedman 1989: 77; Houlihan 1996: 129, 132-133). The *Tilapia nilotica* had associations with fertility and rebirth and thus was a popular amuletic motif.[162] The fish scaraboids in the corpus were all carved on U-shaped, or 'stela-shaped' bases with the head end of the base rounded and the tail end flat. The three scaraboids vary in level of skill of carving with scaraboid **516** from Gebel el-Zeit crudely rendered, possibly of faience, with painted scales, to an elaborately carved scaraboid (**322**) from Tomb CC 37 of steatite with the individual scales and fin details incised (fig. 5.28).

Figure 5.28: Fish scaraboid **322** from Tomb CC 37 (MMA 26.7.125, CC0 1.0).

Jaeger (1982: 117, 210-211) only remarked upon fish scaraboids with oval-shaped and rectangular-shaped bases. He stated that those on oval bases are seen in contexts dating up to the reign of Thutmose III and those on rectangular bases are present in Nineteenth to Twentieth Dynasty contexts. However, Keel (1995: 68-69) noted that not only do the oval shaped fish scaraboids continue in use for the whole of the Eighteenth Dynasty, but that a third shape, the U-shaped base that conforms more with the natural shape of the fish, can also be seen from the Eighteenth Dynasty onwards.

Keel's dating of the U-shaped fish scaraboids accords with the corpus as the base design motifs are all typical of the Eighteenth Dynasty, including one likely dating to the early Eighteenth Dynasty inscribed with the name of Queen Ahmose Nefertari (**322**).

Frog scaraboids were a very popular form of figure scaraboid that were first seen in tombs dating to the late Old Kingdom in Middle Egypt (Brunton 1948: pl. 33, 24-25). Frog scaraboids can be seen sparingly in contexts dating to the First and Second Intermediate Periods and the Middle Kingdom but reach a peak in popularity in the Eighteenth Dynasty, particularly during the Amarna Period (Keel 1995: 69).[163] Frogs had associations with birth and rebirth in ancient Egypt, due to their seemingly magical birth from frog spawn in the mud of the riverbanks (Hornung and Staehelin 1976: 112; Pinch 1993: 288).

Eighteenth Dynasty frog scaraboids are generally small and finely carved and are frequently engraved with amuletic hieroglyphic signs, such as *nfr* or *ʿnḫ* (Keel 1995: 69). This aligns with the five examples seen in the corpus from Gebel el-Zeit (**363**, **520**, **764**), the Tomb of Maket at Lahun (**800**),

[162] See below, Chapter 5.2.2.2 for further discussion on the importance of the *bulti* fish.
[163] It must be noted that Egyptologists often have difficulties distinguishing the frog from the toad in Egyptian artefacts (Hornung and Staehelin 1976: 112; Jaeger 1982: 81; Stoof 1992: 239-240; Keep 1995: 69).

and Tomb 1723 at Sedment (**838**). Frog scaraboids **520** and **800** have only a solitary sign upon their bases, *ʿnḫ* and *ḫpr*, respectively. While frog scaraboid **363** is carved with typical Eighteenth Dynasty motifs, **764** is instead carved with the *rdj-R‘* formula, which will be discussed further in Chapter 5.2.2.5. The example from Sedment (**838**) was made of cornelian and its base was left uninscribed.

The final type of animal scaraboid from the corpus is that of a recumbent cat with its head facing to the side. This type of cat scaraboid is only seen in contexts dating from the Eighteenth and early Nineteenth Dynasties (Keel 1995: 71).[164] Three examples of this type were discovered at Gebel el-Zeit, two from the corner of the sanctuary (**465**, **472**) and one from beneath (**737**). Cat scaraboids **465** and **472** both depict a recumbent cat with head raised looking over its left shoulder on a U-shaped or oval-shaped base, respectively (fig. 5.29). The two scaraboids are of different artistic styles, for example **465** has large recessed eyes, and the body of **472** resembles those of the frog scaraboids, but they are of the same type. Both bases are engraved with standard Egyptian motifs, uraeus and *maat* plume, and a papyrus plant, respectively. Cat scaraboid **737** (fig. 5.46) is instead on a rectangular base and is in more upright position (not fully recumbent but also not completely sitting) with its head turned over its right shoulder. Its base is engraved with the enigmatic *anra* motif,[165] which may mean that this scaraboid dates to the early Eighteenth Dynasty, or perhaps even the late Second Intermediate Period (Régen and Soukiassian 2008: 265). This date fits with the archaeological context as those seal amulets found beneath the sanctuary have a *terminus ante quem* of the reign of Amenhotep III.

Figure 5.29: Cat scaraboid **465** from Gebel el-Zeit (Régen and Soukiassian 2008: 170).

Cats were frequently linked to the goddess Hathor in funerary texts during the New Kingdom (they did not gain their relationship to the feline goddess Bastet until the Twenty-Second to Twenty-Fifth Dynasties[166]) and possibly represented the goddess in animal form as an alternative to her better-known cow form (Keel 1995: 71; Pinch 1993: 190-197). Pinch (1993: 184-189, 197) observed the presence of cat figurines, all dating to the Eighteenth Dynasty, and other objects depicting felines in votive deposits dedicated to Hathor at Deir el-Bahri, Serabit el-Khadim, and Timna. Therefore, it is not surprising that the three cat scaraboids in the corpus were all found in and around the sanctuary

[164] Two cat scaraboids can be seen in a Twenty-Second to Twenty-Fifth Dynasty tombs at Matmar, however they are of a different style with their heads facing directly forward (Brunton 1948: p. 64, 164-165; Keel 1995: 71).
[165] See Chapter 5.2.2.5 for a discussion of the *anra* motif.
[166] The goddess Bastet was depicted as a lion-headed woman during the Old, Middle, and New Kingdoms before appearing as a goddess with the head of a domestic cat in the Late Period (Pinch 1993: 190).

dedicated to Hathor at Gebel el-Zeit. Keel (1995: 71) also linked the popularity of frog scaraboids, alongside the cat shaped examples, in the Eighteenth Dynasty to the popularity of the cult of Hathor.

5.1.3.4. Other Scaraboid Types

Three further unique scaraboids were also found at Gebel el-Zeit. Scaraboid **578** is a rectangular plaque with the head of Hathor carved in light relief on its back and a papyrus plant incised into its

Figure 5.30: Scaraboid **578** from Gebel el-Zeit carved with the head of Hathor in light relief (Régen and Soukiassian 2008: 208).

base (fig. 5.30). This scaraboid is different from the rectangular plaques (see below, Chapter 5.1.4.2.2) because the Hathor-headed back is arched and carved in light relief rather than just incised on a flat surface. This scaraboid was found in the sanctuary dedicated to the goddess Hathor ('mistress of galena'), therefore its presence is somewhat self-explanatory and it likely dates to the early to mid-Eighteenth Dynasty along with the other seal amulets with strong Hathor connections. A few parallels are known from other votive deposits dedicated to Hathor, such as an example excavated at Deir el-Bahri, now at the MFA (06.2493), that has the name of Amenhotep I inscribed upon its base (Pinch 1993: 150-151).

Figure 5.31: Scaraboids **644** (left) and **765** (right) from Gebel el-Zeit have their backs carved to resemble a prostrate person (Régen and Soukiassian 2008: 232, 275).

The two other unique scaraboids from Gebel el-Zeit are scaraboids with their backs carved to depict a prostrate person (**644**, **765**) (fig. 5.31). In both examples the person is shown with their legs bent on either side of their body and their arms under their heads, which are turned to the side.[167] Both are carved quite crudely and are incised with typical early Eighteenth Dynasty base designs.

[167] For a parallel with the name of Thutmose III engraved on the base, see Brunton and Engelbach (1927: pl. XXV, no. 25).

The remaining scaraboids in the corpus are of schematic types – that is, neither object amulet nor figure type. Two examples from Gebel el-Zeit (**360**, **483**) and two from Gurob (**852**, **867**) are simply round seal amulets with smooth, convex backs (fig. 5.32). Keel (1995: 81) considers these types of scaraboids to be Type I of the 'kalotte' type; a kalotte being a round piece with a convex or arched back. Keel (1995: 82) noted that this type of scaraboid primarily dates from the Second Intermediate Period to the early Eighteenth Dynasty. Scaraboid **360** is inscribed with a typical Eighteenth Dynasty rosette upon its base. Scaraboid **483** is made of a green stone (exact stone unknown) and two *nfr* signs are only lightly and crudely incised upon its base. The lack of detail on this piece could be due to the difficulty of carving a hard stone (see Chapter 4.1.3).

Figure 5.32: Scaraboid **360** from Gebel el-Zeit is a 'kalotte' in that it is round with a curved back (but not domed) (Régen and Soukiassian 2008: 136).

One scaraboid from Gebel el-Zeit (**712**) and one from the Tomb of Maket (**809**) are of a similar type but instead of smooth convex backs, they have rosettes carved into the domed surface. Keel (1995: 81) considers these rosette scaraboids to be further sub-types of the 'kalotte' type. Both examples appear to belong to Keel's Type II in that they are round scaraboids with one or two grooves carved into the side, separating the back from base, with a linear star or rosette carved upon the top. He remarked that a few examples of this type were found in contexts dating from the Second Intermediate Period to the early Eighteenth Dynasty. Scaraboid **712** is inscribed with the characteristically Second Intermediate Period *anra* motif upon its base, which is in keeping with Keel's proposed dates (see Chapter 5.2.2.5), whereas the example from the Tomb of Maket (**809**) has a more generic base motif.

Scaraboid **705** from Gebel el-Zeit is oval-shaped and has a domed back with a grooved line separating the back from the base. The back is smooth but is painted with five oval shapes to give it a 'marbled' appearance (Régen and Soukiassian 2008: 253). The base is carved with an image of a Hathor-headed sistrum, which is apt due to its find context of near the Hathor sanctuary at Gebel el-Zeit.

Scaraboid **750** from Gebel el-Zeit is very large at 28 mm long and 22 mm wide. This scaraboid has a smooth, domed back and is made of wood – the only wooden seal amulet in the present corpus. The base is carved with a unique geometric motif of circles and triangles, of which the author knowns no parallels.

A final scaraboid from the Tomb of Maket (**784**) is of an unknown type due to more than half of its back having broken off. What is left of the back is smooth and domed, resembling scaraboid **750**, although in steatite.

Oval smooth backed scaraboids can be easily distinguished from cowroids due to their uniformly convex back, as opposed to the cowroid backs which rise more steeply from the long ends to form a ridge between the perforation points (see fig. 5.16 and Appendix B, 4 for the cowroids). However, it can be more difficult to distinguish between the earliest, more rounded cowroids, the rounded 'simple' scaraboids (Keel 1995: 63-64; which had more or less vertical sides), the 'bone-seals' (Keel 1995: 64-65, which were not necessarily always made of bone), and the 'kalottes', as the differences between the types may only be minute. Therefore, one must always exercise caution when assigning scaraboids to a type and be aware that they may have been inaccurately designated in other publications.

5.1.4. Other Seal Amulets

5.1.4.1. Double and Multiple Scarabs

Double and multiple scarabs are seal amulets with the characteristic base sealing plates seen on scarab amulets but instead of the body of the amulet depicting a solitary beetle, these seal amulets display anywhere from two to seventy-five smaller scarabs (Keel 1995: 61). While these seal amulets may technically be scarabs rather than scaraboids, they are dealt with in this section due to their unique nature, which is cause for individual treatment.

Five multiple scarabs are in the corpus – one double scarab from the Tomb of Hatnefer and Ramose (**249**), another double scarab from Gebel el-Zeit (**611**), and three scarabs with six or more beetles carved on their backs, also from Gebel el-Zeit (**425**, **432**, **600**).

Four of the five examples are of Keel's Type II – that is two or more scarabs of equal size sharing the same oval, or sometimes rectangular, base. These multiple scarabs generally depict two to four scarabs side by side, or sometimes with the bottom of their backs meeting in the middle of the object. Type II multiple scarabs date from the Thirteenth Dynasty until the end of the Ramesside Period, based on their find contexts and base decorations. Keel (1995: 62) remarked that few examples are known from the Eighteenth Dynasty, as opposed to the other periods, however in his examples, the base designs of many of the Type II multiple scarabs depict typical Eighteenth Dynasty motifs, such as *Jmn-R'* (Keel 1995: 62, fn. 75, 77).

Scarab **625** depicts two scarab beetles with distinguishable features sitting side by side on a nearly round oval base. The A3 shaped head and the type II back exhibited on both beetles would suggest that the scarab has a date of the Early Eighteenth Dynasty. Scarab **425** depicts six scarab beetles upon

a rounded, slightly square back. The scarab beetles are shown in two lines of three with their heads facing outwards and the bases of their backs meeting in the centre of the object. The base is simply carved with three *tête-bêche nfr* signs and other than having lined backs, the six scarab beetles display zero defining characteristics.

Scarab **600** also depicts six small scarabs in two lines of three facing outward; however, it differs in that it is on a rectangular, nearly completely square, base, rather than being on an oval base as is the norm of the type (Keel 1995: 61-62). Similarly, to scarab **600**, scarab **432** is on a rectangular base. Scarab **432** is instead carved with fifteen small scarabs in three rows of five upon its back. The outermost rows have the beetles depicted with their heads facing outwards and the middle row has the beetles all facing the same direction. Neither scarab **600** nor **432** have any defining features carved into the small beetles themselves; however, their base motifs are not amiss in the Eighteenth Dynasty repertoire.

Figure 5.33: Double scarab (Type III) **249** from the Tomb of Hatnefer and Ramose (MMA 36.3.39, CC0 1.0).

Scarab **249** from the Tomb of Hatnefer and Ramose is of Keel's Type III in that it displays two identical but distinct scarab beetles with individual oval bases that are attached side by side (fig. 5.33). This type is only seen on double or triple scarabs and was particularly popular during the Eighteenth Dynasty with multiple examples engraved with the name of Thutmose III (Keel 1995: 61-62). While this example has a chronologically insignificant base design, it does display features, such as the A-type head, that are characteristic of the Eighteenth Dynasty.

5.1.4.2. Bifacial Plaques

The corpus contains twenty-six bifacial plaques. Bifacial plaques are flat (i.e. not having the characteristic domed back of scarabs, cowroids, and most scaraboids) seal amulets in which both the front and back are engraved with hieroglyphs and/or a design. Bifacial plaques were included in the present study as they frequently display the same design motifs as the scarabs, cowroids, and scaraboids, as well as were made from the same variety of materials, namely steatite. The bifacial plaques in the corpus have been divided into those that are oval-shaped, those with a rectangular shape, and finally those that are shaped as a cartouche. The distinction between oval and rectangular shaped bifacial plaques is an ambiguous one as some rectangular plaques have rounded corners (for example, plaque **697**) and many oval-shaped plaques have edges that appear straight at points (such

as plaques **535** and **662**). However, the author has, to the best of her ability, placed the plaques under the type they best fit.

5.1.4.2.1. Oval Plaques

Keel (1995: 84) divided the oval plaques found in Palestinian contexts into three distinct types. Type I and II are engraved on both sides, whereas Type III is engraved only on one. The difference between Type I and II is that Type I has a groove along the side separating the 'top' from 'bottom'.[168]

All seven oval-shaped bifacial plaques are of Type II (**405**, **430**, **518**, **535**, **662**, and **698** from Gebel el-Zeit; **811** from Tomb of Maket), which is the only one of the three types that Keel (1995: 84-86) dated to the Eighteenth Dynasty[169], furthermore he noted that Type II oval-shaped plaques replace the larger and coarser Type I plaques of the Second Intermediate Period and that Type II are only seen in the Eighteenth Dynasty before falling quickly into disuse. He dates their peak in popularity between the reigns of Thutmose III and Amenhotep III (roughly 1450-1350 BCE). These dates agree with the examples seen in the corpus as they all depict typical Eighteenth Dynasty motifs, including three bearing the praenomen of Thutmose III and four inscribed with *Jmn-R'*.

5.1.4.2.2. Rectangular Plaques

Keel (1995: 89-90) separated the rectangular bifacial plaques into three types. Like the oval-shaped plaques, Type I and II are generally made of steatite or faience and are engraved on both 'top' and 'bottom' faces; Type I is differentiated in that its sides are decorated, often with signs such as *nfr*.[170] Unlike oval-shaped plaques, Type III is a plaque engraved on both faces but is carved of a dark green stone rather than steatite or faience, and bears distinctly non-Egyptian motifs on its faces (Keel 1995: 90, 92-93).[171]

All fourteen rectangular bifacial plaques in the corpus are of Type II. While there are a few examples of Type I plaques from the Eighteenth Dynasty, Type II was the most popular of the three types and dates from nearly the entire duration of the Eighteenth Dynasty, reaching its first peak in production between the reigns of Thutmose III and Amenhotep III, and continued to increase in popularity into the Ramesside period (Keel 1995: 90-92).

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[168] Generally, there is no clear 'top' or 'bottom' to a bifacial plaque; however, the terms were used here for comprehending where the groove is located on Type I oval-shaped bifacial plaques.
[169] Type I Keel only dates to the Fifteenth Dynasty, whereas Type III he dates to the Iron Age/Ramesside Period and later (Keel 1995: 84-86).
[170] Jaeger (1972: 177) called Keel's Type I a 'brick-shaped' plaque and noted an example where deities were carved on both the faces and the two long sides.
[171] For a discussion of Type III rectangular bifacial plaques and their possible manufacture in Palestine or Syria, see Keel (1995: 92-93).

Eleven of the rectangular plaques are from Gebel el-Zeit (**418**, **423**, **451**, **461**, **503**, **536**, **570**, **610**, **614**, **651**, **697**), and one each were discovered in the Tomb of Maket at Lahun (**776**), in Tomb CC 41 at el-Khokha (**357**), and Tomb 27 at Gurob (**856**). All bar one were made of steatite or faience and depict design motifs that are typical of the Eighteenth Dynasty (such as **418** and **856** with the name of Amenhotep I and the examples engraved with *Jmn/Jmn-R'*).

Bifacial plaque **536** from Gebel el-Zeit was produced from a dark brown-black stone. This rounded corner rectangular plaque has not been assigned to Keel's Type III because a main qualifier for the third type is that their design motifs are distinctly non-Egyptian (Keel 1995: 90, 92). Plaque **536** is carved with a *bulti* or *Tilapia nilotica* fish[172] upon one face and a scarab beetle upon the other – two distinctly Egyptian motifs.

Plaques **451** and **610** appear to be square-shaped plaques rather than rectangular shaped. True square-shaped plaques are quite rare, mostly dating to the Iron Age, and are on average 18.6 mm long (whereas **451** is 16 mm long and **610** is only 11 mm long). Although appearing square, these 'square' plaques in the corpus are in fact rectangular as one side is one or two millimetres longer than the other. However, one must wonder why nearly square plaques appear hundreds of years prior to Keel's described square plaques from the Iron Age (Keel 1995: 88). Perhaps square plaques should be included as rectangular plaques with a note that they became squarer towards the end of the Eighteenth Dynasty and later.

5.1.4.2.3. Cartouche-Shaped Plaques

Since the Fourth Dynasty, the praenomens and nomens of kings have been written within an oval-shaped loop of cord, known as a cartouche (Spieser 2010: 1-2). The cartouche is distinguished from a simple oval as the cord is often visibly braided or twisted and the end depicting the termini of the cord forms a straight-line 'base' for the oval (fig. 5.34) (Hornung and Staehelin 1976: 42). Cartouches

Figure 5.34: Cartouche-shaped plaque **267** from the Tomb of Hatnefer and Ramose. Although cartouches were generally reserved for royal names, the signs within this plaque seem to have been chosen for their amuletic value only (MMA 36.3.41, CC0 1.0).

[172] See Chapter 5.2.2.2 for a discussion on the *bulti* or *tilapia nilotica* in base iconography.

have been seen in amulet form from the end of the Old Kingdom through to the Ramesside Period and then again in Late Period (Keel 1995: 77). Pinch (1993: 277) noted that seal amulets, such as cartouche plaques, inscribed with royal names were worn by private individuals for their amuletic value. Cartouche-shaped bifacial plaques were already in use in the Twelfth Dynasty but did not reach the peak of their popularity until the Eighteenth Dynasty, namely during the reign of Hatshepsut. In fact, Keel (1995: 77-78) noted that at least sixty-two cartouche shaped seal amulets are known with the name of Hatshepsut engraved upon them. These plaques were commonly found in votive deposits dedicated to Hathor from sites such as Deir el-Bahri, Faras, Serabit el-Khadim, and Timna inscribed with names ranging from Ahmose to Seti II (Pinch 1993: 39, 55, 66, 298, 607).

Four cartouche shaped seal amulets are in the present corpus, one from the Tomb of Hatnefer and Ramose (**267**), another from Tomb 27 at Gurob (**876**), and two from Gebel el-Zeit (**557**, **659**). The cartouches on plaques **267** and **557** are simply filled with nonsensical amuletic hieroglyphs and design motifs (*nfr*, *nb*, *ʿnḫ*, and lotus flowers), whereas both faces of cartouche plaque **659** are carved with the name of titles of Thutmose III. The example from Gurob (**876**) was left uninscribed.

5.1.4.3. Other

Quadratic prisms, which are essentially elongated cubes carved on four sides with the top and bottom left uninscribed, have been discovered dating from the Eighteenth Dynasty to the early first millennium BCE. While the style is fairly homogenous throughout its use, they are overall rare (Keel 1995: 96-97). A well-carved example from the Tomb of Maket at Lahun (**807**) depicts the praenomen of Thutmose II on one side and further titles and epithets on the other four.

A solitary silver ring (**791**) from Lahun was included in the corpus as it was found on the hand of the Lady Maket, impressed with her name, alongside a silver scarab mounted in a gold ring bezel (**792**), also bearing the name of the deceased woman. While the shape and typology of this rectangular plated ring is not of interest to the present study, this silver ring bearing the same hieroglyphic inscription as the silver scarab ring adds context to its assemblage and acts as a parallel for the base inscription of scarab **792**.[173]

5.2. Base Iconography

5.2.1. Tufnell's Base Design Classes

Tufnell (1984) devised a typology of scarab base design classes, building upon her work with Ward (1978). Her list of design classes is numbered from one to eleven with many subdivisions for each

[173] These silver objects will be discussed further in Chapter 5.2.3.11.

category. Design Class One is designated for linear patterns, which include geometric, floral, and human linear motifs. Class Two is for scrolls and spirals, a base design particularly popular on Middle Kingdom scarabs. Three covers Egyptian signs and symbols, which is a large class with many subcategories including five different portrayals of cobras, the *nsw.t bjtj* motif, and cartouches. Design Class Four is for concentric circles and Five is for cross patterns. Six is for coiled and 'woven' patterns. Design Classes Seven and Eight cover scroll borders and rope borders, respectively. Class Nine is designated for animals and heraldic beasts, a category that has been amended and added to for this study (see Design Class 9J, below as an example). Ten is for human and mythical figures; this class is divided into subcategories for human-headed and mythical headed figures in various stances. Finally, Design Class Eleven is for names and titles, both of royalty and private persons (Tufnell 1984: 29-30).[174]

Tufnell's base design classes were created specifically with early second millennium BCE scarabs in mind and perhaps were not intended for use on Eighteenth Dynasty scarabs.[175] Therefore, some new design classes have been added by Keel (1995: 161-162) and by the present author (such as Design Class 1B2 or 11C1, see below) as amendments to Tufnell's original system (Appendix C). Furthermore, some of Tufnell's design classes were deemed repetitive by the present author (for example 1D 'animals and insects' and 9 'Animals and Heraldic Beasts') and thus some of Tufnell's original classes were removed for rationalisation purposes.

5.2.2. Notable Base Designs

While not all of the base designs from the corpus of 876 seal amulets can be mentioned in this study, a few notable base designs will be outlined below due to their significance to the Eighteenth Dynasty or to a site (see Appendix D for the base motifs on each seal amulet). The purpose of the decorated base plate of these scarabs, cowroids, and scaraboids has been a point of much debate. While it may seem obvious that the purpose of seal amulets was to use them as seals, many scholars believe that the sealing properties of scarabs, cowroids, and scaraboids was secondary to their importance as amulets. Petrie (1917a: 4) rightly noted that once glazed, many steatite scarabs would not be useful as seals as the pooling of the glaze within the crevasses would completely fill the base design in some instances, rendering the 'sealing plate' completely smooth and therefore useless as a seal. Furthermore, Ward (1978: 45) noted that the origin of scarabs likely derived from amulets worn specifically by women to protect themselves in childbirth.

[174] See Appendix C for the full list of Design Classes used in this study. The list includes Tufnell's 1984 Design Class list with amendments and additions by later scarab scholars, including the author of this study. All additions are clearly noted.

[175] Although Tufnell does discuss the Tomb of Maket seal amulets (1984: 23-24,106-107, 110-114) as a chronological ending point for her study of scarabs of the first half of the second millennium BCE. See further discussion about the merits and drawbacks of Tufnell's scarab typology in Chapter 2.2.1.

While the sealing abilities of a scarab, cowroid, or scaraboid was of less importance than its amuletic powers, seal impressions matching the shapes of scarabs have been discovered on sites throughout Egypt, the Levant, and further abroad. Ben-Tor (1994: 8) noted that the majority of seal amulets used for sealing appear to have been chosen at random as evidenced by the diversity of seal impressions.

The primary purpose of a base design motif in most cases was not for its use as a seal; therefore, the designs carved upon the bases, which differ by time period and region, must hold some significance to the craftsperson and to the owner of the seal amulet. The chronological, regional, cultural, and religious importance of some of the seal amulet base design classes will be discussed below.

5.2.2.1. Jmn-R‘ (Amun-Re) (Design Class 11C1)

A large number (96) of seal amulets in the corpus are inscribed with the name of the god Amun or Amun-Re. Jaeger (1982: 68-69) identified nine different forms of *Jmn*/*Jmn-R‘* scarabs. A small portion of seal amulets bore the name *Jmn* (excluding the *R‘*) (Jaeger Type A), some of which bore a longer inscription *Jmn nfr ḥsw.t* ‘Amun, perfect in favours’ (Jaeger Type A.1). The majority of Amun/Amun-Re seal amulets are inscribed with the latter name (Type B). Jaeger (1982: 68-69) has created six subcategories for the Amun-Re inscriptions.

B.1 *Jmn-R‘ nb p.t* ‘Amun-Re, Lord of the sky’
B.2 *Jmn-R‘ nsw.t nṯr.w* ‘Amun-Re, King of the gods’
B.3 *Jmn-R‘ nfr ḥsw.t* ‘Amun-Re, perfect in favours’
B.4 *Jmn-R‘ nfr ḥsw.t sḏm ḥtp.w* ‘Amun-Re, perfect in favours, who is attentive to the offerings’
B.5 *Jmn-R‘ ḫ‘w* ‘Amun-Re appears’
B.6 *‘nḫ Jmn-R‘* ‘Amun-Re lives’

Keel (1995: 242) noted that the name of Amun is not seen on seal amulets predating the Eighteenth Dynasty; however, the deity’s name became the most popular name on seal amulets in Egypt, as well

Figure 5.35: Scarab **685** from Gebel el-Zeit inscribed with the name of Amun (left) and scarab **209** from *Djeser-djeseru* foundation deposits inscribed with Amun-Re (right). The seal amulets from the foundation deposits were the first seen with the name of Amun-Re (Régen and Soukiassian 2008: 247; MMA 27.3.344 CC0 1.0).

as Palestine for the duration of the New Kingdom. These seal amulets have been found throughout both regions and most commonly display just the name of Amun or Amun-Re, with perhaps an

additional sign or motif (fig. 5.35). There are also a number of seal amulets in which Amun is part of a royal name (i.e. Amenhotep, see below) or part of an epithet. Jaeger (1982: 68) incorrectly asserted that seal amulets bearing the name of Amun/Amun-Re were most popular during the reign of Thutmose III and were 'practically non-existent' during the reigns of the other rulers of the first half of the Eighteenth Dynasty. In actuality, while seal amulets bearing solely the name of Amun are first seen at some point in the Eighteenth Dynasty, those with the name Amun-Re, which is far more popular during the period, are first seen in the foundation deposits of Hatshepsut's mortuary temple (Ben-Tor 2015: 143).

The large quantity of seal amulets from the Eighteenth Dynasty inscribed with the name of the god Amun or Amun-Re can be linked to the revival of the deity's cult after the Second Intermediate Period (Ben-Tor 2015: 140-141). Amun-Re was the amalgamation of the deities Amun, a creator god, and Re[176], a sun god, into a single deity. Together, Amun-Re was considered the 'King of the Gods' as he harnessed both the creative powers of Amun and the life-sustaining abilities of the sun with Re. This deity was of huge religious and political importance in the Eighteenth Dynasty (Allen 2005: 83).

Sixteen seal amulets from the foundation deposits of *Djeser-djeseru* bear the name of Amun or Amun-Re. A further sixteen bear the name of Amun in conjunction with the queen. Twelve (**002**, **004**, **021**-**030**) of which have *Ḥ3.t-šps.wt ḫnm Jmn* 'Hatshepsut, united with Amun' inscribed upon the base, and three others (**091**, **224**, **225**) bear her praenomen *M3ʿt-k3-Rʿ mrj Jmn* 'Maatkare, Beloved of Amun' (fig. 5.36). The final example (**092**) is inscribed with *M3ʿt-k3-Rʿ ḫnm Jmn* 'Maatkare, united with Amun'.

Figure 5.36: Scarab **024** (left) inscribed with *Ḥ3.t-šps.wt ḫnm Jmn* ('Hatshepsut united with Amun') and scarab **091** (right) inscribed with *M3ʿt-k3-Rʿ mrj Jmn* ('Maatkare, beloved of Amun'), both from the foundation deposits (MMA 27.3.203; 27.3.253).

The emphasis of Amun and Amun-Re on the scarabs from the foundation deposits of *Djeser-djeseru* is unsurprising due to the importance of the deity in Queen Hatshepsut's mythological birth. As depicted on the walls of Hatshepsut's mortuary temple, the ruler was conceived by her mother Queen

[176] Re was an important deity for royalty and as early as the Fourth Dynasty, rulers were given the title 'Son of Re' (Allen 2005: 83). Queen Hatshepsut also bore the title 'Son of Re' but was occasionally called 'Daughter of Re' to reflect her gender. See below Chapter 5.2.3.5 for further discussion on Hatshepsut's titles.

Ahmose and the god Amun-Re in the guise of her father, Thutmose I. This origin story was certainly created in order to legitimise the female ruler's divine right to reign over Egypt. The god was so important to Hatshepsut that her mortuary temple was even built oriented to face Karnak Temple, the principle temple of the deity, which was built on the opposite shore of the Nile (Allen 2005: 83; Ben-Tor 2015: 143).

A further sixty-two seal amulets inscribed with the name of Amun or Amun-Re are in the corpus, predominantly from Gebel el-Zeit, with fifty-three examples; two were discovered in the Tomb of Maket at Lahun, a further two from Tomb 1723 at Sedment, and one each from below the Tomb of Hatnefer and Ramose, Tomb 1728, Tomb CC 37, and Tomb CC 41.

One particularly popular motif of the god's name has *Jmn-R'* written vertically upon the seal amulet base with a *nb* below and a lotus bud framing the upper left side of the base (fig. 5.37). The lotus bud was a symbol of life and rebirth,[177] and therefore the inclusion of the flower bud on a seal amulet with the name of Amun-Re must have been seen to reiterate or enhance the life-giving power of the deity. The inclusion of the *nb* sign is not surprising considering the sheer quantity of sealing plates, including those bearing the name of Amun/Amun-Re, that include the sign as 'filler' and was likely used simply to centre the god's name on the seal amulet base (Keel 1995: 242).[178] At least eight examples of this motif are in the corpus, found at Gebel el-Zeit (**405**, **453**, **490**, **496**, **518**, **535**), the Tomb of Maket at Lahun (**790**), and the foundation deposits of *Djeser-djeseru* (**210**). The five scarabs (**210**, **453**, **490**, **496**, **790**) display typical Eighteenth Dynasty features, such as the lunate head and lined back, and two of the bifacial plaques (**405**, **535**) have the other face engraved with the praenomen of Thutmose III.[179] Due to the example in the foundation deposits of *Djeser-djeseru*, this motif can be first dated to the reign of Hatshepsut, when scarabs inscribed with Amun-Re were first seen.

Amun, as the creator of the world, was an elemental deity whose very name meant 'hidden' (Allen 2005: 83). This hidden nature of the god was reflected in how his name was depicted on objects, including seal amulets. Scarab **435** from Gebel el-Zeit bearing the inscription *Jmn 'nḫ s* may be either a cryptographic writing of Amun, or possibly the name of the queen Ankhsenamun (*'nḫ-s(n)-Jmn*) (Régen and Soukiassian 2008: 160).[180]

[177] See below, Chapter 5.2.2.2 for further discussion of the significance of the lotus flower.
[178] See below, Chapter 5.2.2.6 for further discussion of the use of the *nb* sign as filler in base designs.
[179] The third bifacial plaque (**518**) has the other face incised to depict a griffin (Class 9F3), unfortunately its top half is broken off, therefore the griffin's head is unknown. Human and falcon-headed sphinxes are known from Egypt and Palestine from the Middle Kingdom onwards (Keel 1995: 200-201).
[180] See below, Chapter 5.2.3.9 for further discussion on the possible Ankhsenamun scarab.

Figure 5.37: Scarabs (top and middle, left to right **210**, **453**, **490**, **496**, **790**) and bifacial plaques (**405**, **518**, **535**) displaying the *Jmn-R‘* with *nb* and lotus blossom motif (variation of Design Class 11C1) (MMA 27.3.345, CC0 1.0; Régen and Soukiassian 2008: 150, 166, 178, 180, 188, 194; AN1890.764).

5.2.2.2. Bulti/Tilapia Fish (Design Class 9J)

Eleven scarabs and seal amulets in the corpus (**234**, **262**, **302**, **327**, **329**, **361**, **389**, **422**, **449**, **536**, **763**) bear the design of a *Tilapia nilotica* fish with lotus buds carved onto its base (fig. 5.38 and 5.39). A further cowroid (**222**) has the design carved onto its back (Type IV). In this motif, the fish was shown with two lotus buds emanating from its mouth and curving above and below to border the fish, as it consumed the plant.[181]

Figure 5.38: Scarabs (top to bottom, left to right, **327**, **329**, **361**, **422**, **449**, **763**, **302**) displaying the *bulti* or *tilapia nilotica* and lotus plants base design 9J (MMA 26.7.525, 16.10.266, 16.10.268, CC0 1.0; Régen and Soukiassian 2008: 136, 156, 274).

Water and marsh motifs were popular in ancient Egyptian art due to their allusions to fertility and rebirth. Well known examples of marsh scenes can be found depicted on the Eighteenth Dynasty so-called 'marsh bowls'; a specific type of painted faience bowl often found as votive offerings to the goddess Hathor (Friedman 1998: 211; Pinch 1993: 308-315). These diagnostically Eighteenth

[181] Scarabs **302** and **361** are exceptions in that the *bulti* fish is depicted with only one lotus bud emerging from its mouth. Furthermore, the latter also has a scorpion carved above its back. Bifacial plaque **536**'s carving of the *bulti* fish has no lotus buds depicted. These differences could perhaps be due to a craftsperson being less familiar with the popular amulet motif, an accidental omission, or simply the carver's personal choice. Scarab **302** and **536** are also the only hard stone (red jasper and an unidentified dark stone) examples of this design class. The carver may have omitted lotus buds due to the difficulty of carving the hard gemstone surface of the seal amulet (see Chapter 4.1.3 for further discussion of the difficulties in carving hard stone scarabs).

Dynasty bowls were typically decorated with images of fish, lotus flowers, and papyrus umbels and buds. Many examples, including MFA 1977.619 and Berlin 4562 (both shown Friedman 1998: 211) and ECM 432[182], depict tilapia fish, oftentimes next to, or even eating lotus buds. The *Tilapia nilotica*, or the *bulti* in Arabic, was the most commonly depicted fish in ancient Egyptian art and was especially popular in many artistic forms during the New Kingdom (Brewer and Friedman 1989: 77; Bianchi 1998: 211; Houlihan 1996: 129, 132-133).[183] In ancient Egypt, the tilapia had strong associations to fertility and rebirth due to the female fish's reproductive and nurturing habits. After she lays her eggs, she gathers and stores them in cavities within her mouth. The hatching and subsequent release of the fry from their mother's mouth was seen as a symbol of spontaneous regeneration and fertility (Brewer and Friedman 1989: 79; Houlihan 1996: 132-133).

Figure 5.39: Cowroids **234**, **262**, and **389** (top, left to right) displaying the *bulti* and lotus base design 9J. Bifacial plaque **536** also bears an adaptation of the design, as well as the back of Type IV cowroid **222** (MMA 27.3.397, 36.3.45, 27.3.180, CC0 1.0; Régen and Soukiassian 2008: 145, 194).

Furthermore, the lotus closes its flower every night and reopens in the morning, which was similarly associated with rebirth and resurrection. Together these images provided an even strong imagery invoking fertility and rebirth (Lacovara 1998: 211; Bianchi 1998: 211; Houlihan 1996: 132-133). This style of the fish eating lotus buds, whether intentional or not, also has stylistic similarities to some of the earlier Hathoric scarabs. For example, scarab 291[184] in Ward's 1984 study of scarabs depicts a highly stylized head of the goddess Hathor (which bears similarities to a schematic fish) with what appear to be lotus buds emanating from her head (Ward 1984: 56, plate XI). Therefore, if there was any Hathoric link, it would be of no surprise that examples of this motif were discovered in the sanctuary dedicated to Hathor at Gebel el-Zeit (**361**, **389**, **422**, **449**, **536**, **763**) and in the

[182] See http://mimsy.bham.ac.uk/detail.php?t=objects&type=all&f=&s=432&record=6.
[183] An interesting example is a glazed steatite dish in the shape of a tilapia fish at the Metropolitan Museum of Art (MET 90.6.24) that was engraved with the cartouche of Thutmose III behind the gills. The Tilapia dish is of unknown provenance and was donated to the Metropolitan Museum of Art in 1890 from a private collector (www.metmuseum.org/art/collection/search/547764).
[184] This scarab comes from the private collection of Mr. Fuad Matouk in Beirut.

foundation deposits of *Djeser-djeseru* (**234**, **222**), a temple that has a shrine dedicated to the goddess (Pinch 1993: 7-9).

Design Class 9J, the *bulti* fish eating the lotus plants, is first seen widely on scarabs during the early to mid-Eighteenth Dynasty.[185] Jaeger (1982: 79) noted examples dating to the early to mid-Eighteenth Dynasty from the reigns of Hatshepsut to Thutmose IV and Petrie excavated examples at Amarna, dating to the short-lived Amarna period (Petrie 1894: 29, pl. XV, nos. 149-151).

This base design appears to have had a wide distribution, as a scarab with the typically Hyksos or Canaanite 'Shesha' back was found bearing the image of the *bulti* fish eating lotus plants at the Canaanite site of Tell el-'Ajjul, likely ancient Sharuhen (Boonstra 2014; Kempinski 1974; Morris 2005: 52-56). This scarab comes from an early Late Bronze Age context (Eighteenth Dynasty in Egypt) and is likely contemporary with the Egyptian examples.[186] While the imagery is identical to that of the Egyptian examples, the fish is shown vertically on the scarab base, rather than horizontally, as it is shown in most of the Egyptian examples.[187] It is not entirely surprising that this motif could have reached Tell el-'Ajjul in the early Late Bronze Age, as the site was conquered by the Egyptians at the beginning of the Eighteenth Dynasty (Morris 2005: 28-29). Alternatively, the Tell el-'Ajjul example could be a Canaanite imitation; furthermore, this base design was known to have been replicated in the Saite Period Naukratis 'factory' (Dan 2011).

While different than the seal amulets bearing the base design of the *bulti* eating lotus plants, scaraboids with backs carved to resemble the *bulti* fish are found at two sites, el-Khokha and Gebel el-Zeit. Following the pattern of popularity of the tilapia in art during the Eighteenth Dynasty, it appears that the fish-scaraboid was first produced in the Eighteenth Dynasty, or perhaps shortly before, and then continued in popularity into the Nineteenth Dynasty.[188] These scaraboids were found throughout Egypt as well as the Levant, at sites such as Lachish and Deir el-Balah (Keel 1995: 68-69).

An interesting example of the fish-scaraboid is scaraboid **322** from el-Khokha whose base is inscribed with a cartouche encircling the name Nefertari, believed to be from Queen Ahmose Nefertari who dates to the commencement of the Eighteenth Dynasty (c. 1550-1479 BCE), which provides further evidence of the *Tilapia nilotica*'s popularity in the early Eighteenth Dynasty.[189]

[185] The motif can also be found on other artefacts, such as the lid of a stone vessel from Sedment (Petrie and Brunton 1924b: pl. XLVIII, no. 29), which is part of the so-called 'Taweret Workshop' that dates to the early to mid-Eighteenth Dynasty (Sparks 2006).
[186] The Tell el-'Ajjul scarab, EXIII.61/9, resides in the Petrie Palestinian Collection at University College London, http://archcat.museums.ucl.ac.uk/detail.aspx?parentpriref=#.
[187] Scarab **763** from Gebel el-Zeit also depicts the *bulti* fish and lotus bud motif vertically, rather than horizontally.
[188] See Chapter 5.1.3.3 for more information about fish scaraboids.
[189] The other two fish scaraboids from Gebel el-Zeit (**516**, **591**) display typical Eighteenth Dynasty base designs.

5.2.2.3. Falcons (Design Class 9H)

Twenty-six seal amulets bear base design motifs that include falcons. The falcon was an important creature to the ancient Egyptians. Not only was the god of kingship, Horus, depicted as either a falcon or a falcon-headed man, but also in cases when the bird was not intended to represent the deity, it was instead a symbol of renewal (Hornung and Staehelin 1976: 136-137).

Falcons are first seen on scarabs of the Twelfth Dynasty but were not regularly depicted until the early Second Intermediate Period when falcons, particularly those with outstretched wings, were heavily used on scarabs from the Jasper Group (Keel 1989b). A popular Second Intermediate Period falcon motif was the 'Horus and *nṯr*' motif (3A4), which depicts the bird with a *nṯr* sign, sometimes debased to look like a right angle, or 'corner', frequently with other symbols (Keel 1995: 202; Ben-Tor 2004a: 34, fig. 7: 5-11). Another popular falcon motif from the Second Intermediate Period, which is only seen on royal name seal amulets in the corpus, is that of a pair of falcons (9H2) (Keel 1995: 203).[190]

Figure 5.40: Scarabs (top to bottom, left to right, **295**, **369**, **431**, **592**, **636**, **727**, **828**) bearing design class 9H3 of a falcon with flail and a uraeus in its claws (MMA 26.7.142, CC0 1.0; Régen and Soukiassian 2008: 139, 159, 213, 228, 262; E.23.1921, © Fitzwilliam Museum).

Falcons are widely seen as a part of base design motifs from the Second Intermediate Period into the New Kingdom. In the Eighteenth Dynasty, seal amulets bearing falcons are also inscribed with the names of rulers from Ahmose to Thutmose IV (Hornung and Staehelin 1976: 96; Jaeger 1982: 77).

One popular Eighteenth Dynasty design motif containing a falcon (design class 9H3) depicts a standing falcon, always facing right, with a uraeus in its claws and a flail behind it towards the left (figs. 5.40 and 5.41). All three of these symbols have ties to kingship. Horus, the god of kingship,

[190] For example, see the few seal amulets with a pair of falcons flanking the name of Queen Hatshepsut, Chapter 5.2.3.5, below.

was frequently depicted as a falcon; however, it cannot be assumed that all depictions of falcons are meant to represent Horus (Hornung and Staehelin 1976: 96). The uraeus, which is frequently seen in royal iconography including on a ruler's crown, is believed to protect the wearer (Keel 1995: 192). Finally, the flail was a symbol of authority and was frequently held by rulers in artistic depictions and often found in kings' tombs (Lurker 1980: 52).

Figure 5.41: Duck scaraboid **622** bearing design class 9H3. Scarab **573** (on the right) possibly also bears the design but is too worn to determine (Régen and Soukiassian 2008: 207, 223).

Hornung and Staehelin (1976: 250, no. 300) saw the falcon with flail as a cryptographic spelling of *R'*. If this motif was connected to the sun-god Re, rather than or in addition to, kingship, the uraeus would also fit this meaning as it was sometimes seen as the 'fiery eye' of Re (Lurker 1980: 125).

At least eight scarabs and scaraboids in the corpus bear this particular motif from Gebel el-Zeit (**369**, **431**, **592**, **622**, **636**, **727**), el-Khokha (**295**), and Sedment (**828**). All but two also stand over a *nb* sign, which was likely used as filler.[191] The exceptions are scarab **295** and **431**, the former which has *nbw nsw.t* inscribed in the bottom half of the sealing plate and the latter which has the falcon standing above a sideways ankh and a *t* hieroglyph, perhaps to be translated as 'she (is) living/lives' *'nḫ.tj* (seen in fig. 5.40). Scarab **573** likely also bears this motif, however, is too worn to definitively identify the uraeus and flail (in fig. 5.41). Scarabs **369**, **636**, and **727** all depict a double-ended flail; however, this could possibly be a small *nb* sign above the falcon, next to the flail (in fig. 5.40).

A further four scarabs from Gebel el-Zeit and a cowroid from the Tomb of Hatnefer and Ramose depict variations of the 9H3 design. Instead of the flail, these seal amulets either have nothing behind the falcon (**736**), a maat feather (**655**), an ankh (**551**), a scorpion (**254**), or a second uraeus (**565**). However, all of these scarabs still depict the standing falcon, facing right, claws grasping a uraeus, and over a *nb* sign. Scarab **135** from foundation deposit 7(G) of *Djeser-djeseru* displays the falcon in a horizontal orientation with a flail but instead of a uraeus and *nb* beneath, there is simply an ankh in front of the falcon. Scarab **830** from Tomb 1723 at Sedment also bears a standing falcon, facing right over a *nb* sign; however, it differs in that there is no flail or uraeus. Instead, the falcon wears the red crown and a *maat* feather is behind it.

[191] See below, Chapter 5.2.2.6 for further discussion of the use of the *nb* sign as filler in base designs.

Four scarabs and one cowroid depict a falcon with outstretched wings in flight upon the base (Design Class 9H4). Unlike the Design Class 9H3, these seal amulets were found in contexts throughout Egypt, in the foundation deposits of *Djeser-djeseru* (**170**), the Tomb of Hatnefer and Ramose (**253**), Tomb CC 37 at el-Khokha (**299**), and the sanctuary of Gebel el-Zeit (**458**, **730**). Another scarab from the Tomb of Maket at Lahun (**777**) also displays a falcon with outstretched wings. However, in this instance, the falcon's wings are framing a centrally placed man wearing the blue crown and holding a crook. To the right of the man is the cartouche of Thutmose III. Jaeger (1982: 76-77) noted that in the Eighteenth Dynasty, the falcon was often combined with depictions of kings and that those shown with outstretched wings, but not flying, were protecting the king.

As the falcon was closely aligned with kingship (see above), it is unsurprising to see a number of seal amulets from the foundation deposits of *Djeser-djeseru* with falcons depicted upon their bases. Eight scarabs (**045**, **046**, **064**, **066**, **103**, **135**, **170**, **180**) depict falcons that are not part of a hieroglyphic word or statement, whereas the rest are inscribed with phrases such as, 'the female Horus' or 'the golden Horus'.

5.2.2.4. Linear Star or 'X' Design (Design Class 1B2)

A new design subclass, Class 1B2, was created for a distinct linear base motif. 1B2, a subclass of 'geometric linear patterns' 1B, is for seal amulets upon whose bases a linear 'X' or a star shaped pattern is incised. There are ten examples of Design Class 1B2 in the corpus from five sites: scarab **268** from near the Tomb of Hatnefer and Ramose, cowroid **710** from Gebel el-Zeit, scarab **875** from Tomb 27 at Gurob, scarab **823** from Tomb 1728 at Sedment, and three seal amulets each from the

Figure 5.42: Cornelian or red jasper scarabs bearing the X or cross design (1B2) from the burial of Amenhotep the child (**268**),the Tomb of Maket (**805**, **808**), Tomb 27 at Gurob (**875**), and Tombs 1723 (**839-841**) and 1728 (**823**) from Sedment (MMA 36.3.158, CC0 1.0; AN1890.789(iii) © Ashmolean Museum; Tufnell 1984: 114 (scale unknown); GLAHM:D1921.31 © Hunterian Museum; E.34a-c.1921 © Fitzwilliam Museum; E14145 © Penn Museum).

Tomb of Maket (**805**, **808**, **814**) and Tomb 1723 at Sedment (**839**, **840**, **841**). In some instances, a simple 'X' is carved, others a six-pointed star, and in others still there are added horizontal or vertical lines framing the 'X' or star. In all cases the base incision is very crude (fig. 5.42 and 5.43).

Generally, this motif, which has been discovered on seal amulets throughout Egypt, the southern Levant, and even in the Aegean[192] is found on scarabs made of cornelian or red jasper.[193] This is largely reflected in the corpus; however, the example from Gebel el-Zeit (**710**) as well as one example from the Tomb of Maket (**814**) are both cowroids and made of faience.[194]

There has been plenty of debate regarding the origin of these red hard stone scarabs with crossed designs, due particularly to their un-Egyptian seeming base motif as well as their wide distribution (Phillips 2008: 145; Lalkin 2008: Chapter 8.3). Furthermore, many scholars have dated these scarabs to the Nineteenth Dynasty, primarily due to their presence in Ramesside contexts in the Levant (Keel 1995: 144-145; Brandl 2009: 644; Boschloos 2015: 10). The presence of these scarabs in the early to mid-Eighteenth Dynasty tombs of Maket and those at Gurob and Sedment, as well as in many other Eighteenth Dynasty contexts throughout Egypt (fig. 5.44) immediately invalidates a date of the Nineteenth Dynasty (Boschloos 2015). Furthermore, the presence of only two of these scarabs on Crete makes a Minoan workshop highly unlikely (*contra* Phillips 2008: 145). While at least sixteen examples of cornelian scarabs with the 'X' or star design have been found dispersed throughout the Levant, at least twenty more have been found in Egypt, largely clustered around the Fayum (fig. 5.44). Interestingly, the Egyptian examples seem to have used cornelian and red jasper indiscriminately. Boschloos (2015) has demonstrated that the origin of these scarabs is in Egypt,

Figure 5.43: Faience cowroids from Gebel el-Zeit (**710**) and the Tomb of Maket (**814**) also bearing the linear base design 1B2 (Régen and Soukiassian 2008: 255; AN.1890.787a(C), photograph author's own).

[192] Two examples have been found at Knossos, and a third in Athens (Boschloos 2012: 6).
[193] See Chapter 4.1 for further information about these stones.
[194] The fact that these seal amulets are neither scarabs nor made from a hard red stone automatically withdraws them from Boschloos' proposed workshop (Boschloos 2015).

likely Middle Egypt, during the Eighteenth Dynasty; her conclusion is based upon the distribution and first appearance of these cornelian/red jasper scarabs.

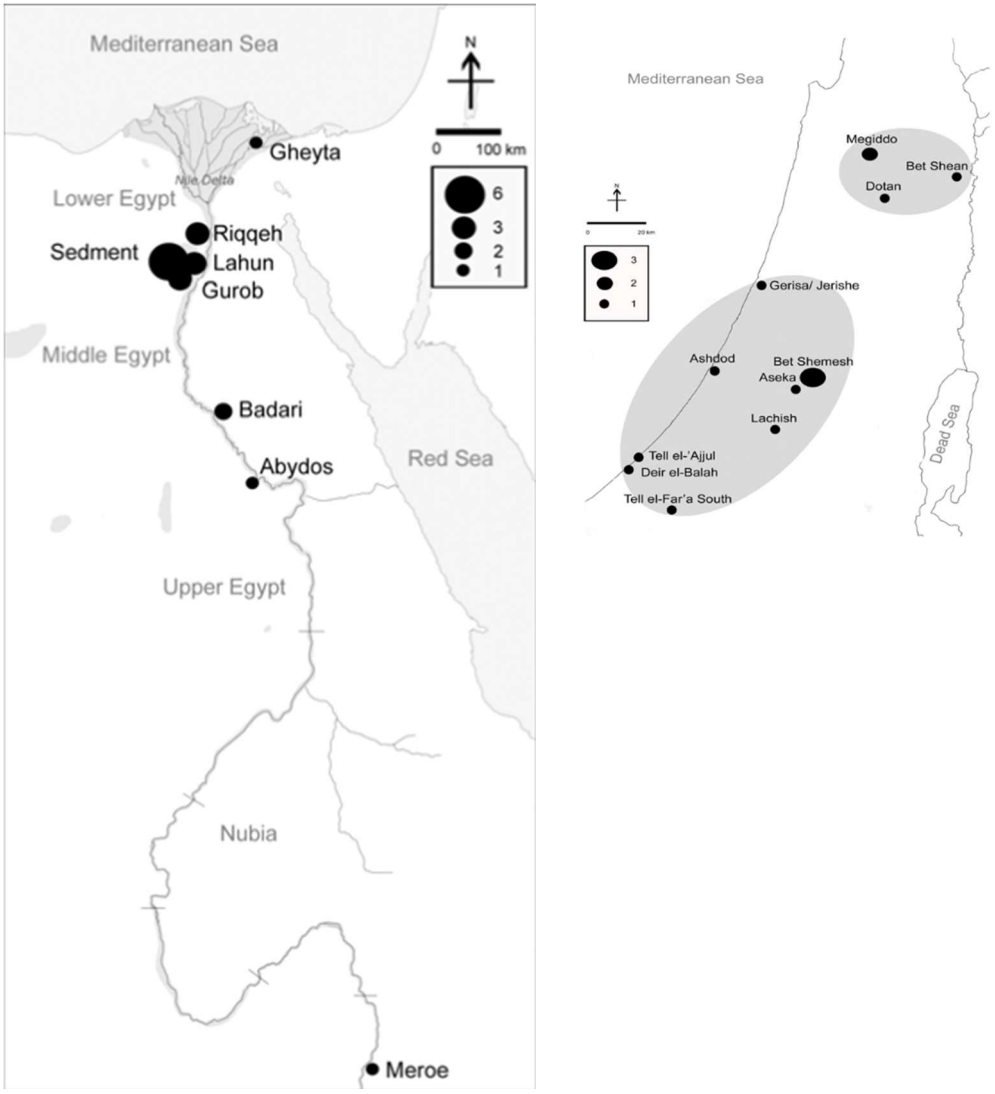

Figure 5.44: Map showing distribution of cornelian or red jasper seal amulets bearing the X or cross design (1B2) (Boschloos 2015: fig. 1, 5).

'X' and cross motifs are universal and can be seen on Minoan, Mesopotamian, and Levantine artefacts (Yule 1981: pl. 18-19; Keel 1981: 206-207). It is therefore possible that the Egyptian craftspeople, or perhaps even foreign artisans working in Egypt, were inspired by this motif from artefacts of different cultures. It is also possible that due to the amuletic properties of cornelian and red jasper, a detailed base design was not deemed of the utmost importance. Or perhaps a combination of the two, in that the craftsperson wanted to combine the international base design with a stone of amuletic value carved as a typical Eighteenth Dynasty Egyptian scarab (with a lined back and lunate head, see above). Further discussion about foreign influences on Eighteenth Dynasty scarabs will be discussed in Chapter 7.1.3.

Boschloos (2015: 9) noted that the scarabs and other seal amulets bearing the same design but created of faience or steatite (such as cowroid **710**) demonstrate a different workshop, perhaps influenced by the cornelian/red jasper one. However, she also noted that cross and star-shaped motifs were seen

dating back to Old Kingdom and First Intermediate Period stamp seals (Wiese 1996: table 43-47). Therefore, while the base design itself is not exclusively early New Kingdom, the base design on a cornelian or red jasper scarab specifically dates to the Eighteenth Dynasty.

5.2.2.5. Anra (Design Class 3C1)

Twelve of the scarabs in the corpus display a peculiar formula comprised of Egyptian hieroglyphs. Principally, the hieroglyphs shown are *ʿ*, *n*, and *r* but occasionally *nb* and *nbw* are also featured.[195] These scarabs are commonly known as *anra* scarabs (or seal amulets) and the motif is Tufnell's class 3C. Tufnell (1984: 121) designated class 3C as 'formulae'; in her description of the class, she explained that 'formulae or so-called 'an-ra' style inscriptions are curiously composed almost entirely of low broad signs chosen from Egyptian hieroglyphic writing; they are neatly cut and carefully arranged in vertical lines and/or columns, though they appear to make only limited sense in the Egyptian language'. Keel (1995: 175-176) includes another formulaic base motif in his discussion of Design Class 3C, that of the signs *Rʿ*, *r*, and *dj*, always in this order, in a vertical line. While these so-called *rdj.Rʿ* seal amulets share many similar base design features to the *anra* motif with low, broad signs, this study holds that the two formulaic motifs should be treated separately and therefore has designated the *anra* motif to Design Subclass 3C1 and the *rdj.Rʿ* to Design Subclass 3C2 (see Appendix C).

Seal amulets with the *anra* motif have been the source of much discussion regarding their provenance, distribution, and meaning (Tufnell 1984: 121; Ward 1987: 526; Keel 1995: 175-176; Richards 2001). More than four hundred examples have been discovered throughout Egypt, Nubia, and the Levant, primarily in Second Intermediate Period Egypt and the southern Levant with eighty percent of the examples found in Palestine (Richards 2001: 11). These formulaic design scarabs were given the title 'anra' by Weill (1918: 193) while writing on the history of the Middle Kingdom. While he correctly attributed the production of these scarabs to Palestine (as the vast majority were indeed produced there), he believed that they only began their manufacture in the Levant after the Egyptians removed the Hyksos at the start of the Eighteenth Dynasty.

The primary evidence supporting a Palestinian origin for the *anra* motif is that it is well represented in the earliest Palestinian manufactured series of scarabs yet is completely absent from its contemporaneous Middle Kingdom Egyptian contexts. In fact, this base design is not seen on seal amulets in Egypt until the Fifteenth Dynasty. Ward (1987: 524-525) noted that the *anra* seal amulets found in Palestine display a wider variety of supplementary signs, whereas those found in late Second Intermediate Period Egypt generally stick to the primary *ʿ*, *n*, and *r* signs.

[195] See Chapter 5.2.2.6 for further discussion on the inclusion of the *nb* sign on seal amulets.

Figure 5.45: Scarabs (top to bottom, left to right, **334** from Tomb CC 41; **499**, **560**, **582**, **645**, **720**, **748**, **759** from Gebel el-Zeit; **864** from Tomb 27 at Gurob) bearing the *anra* formula in multiple variations (Design Class 3C1) (MMA 16.10.354, CC0 1.0; Régen and Soukiassian 2008: 181, 202, 210, 232, 260, 270, 273; GLAHM:D1921.33, © Hunterian Museum).

Many scholars have proposed a wide variety of meanings for the *anra* formula including Weill's (1918: 193) belief that it was associated with a king of the same name, Petrie (1919: 46) and Hornung and Staehelin (1976: 51-52) who all associated the formula with a spell connected to the sun god Re, Keel's (1995: 214-218; 244-246) suggestion that the formula was used in place of names and titles in imitation of Middle Kingdom scarabs, or Richards' (2001: 150-160) proposal that it was an evocation of the Semitic god El. There is no evidence that this formula ever made any hieroglyphic sense, or intended to do so, therefore many of the suggested interpretations cannot be verified. The frequently misrendered hieroglyphs, coupled with the facts that there is no consistency in the order of the signs and that some are excluded or included further corroborates a Palestinian origin (Ben-Tor 1997: 171-175) and perhaps bolsters Keel's hypothesis that the *anra* motif was used by those illiterate in ancient Egyptian language to imitate private name scarabs, popular in the Middle Kingdom.

One variant, the *htp n r'*, is believed to have been an Egyptian made motif, which perhaps inspired the Canaanite *anra* motif, as it is the only version to make sense in the Egyptian language and is

found on Egyptian Middle Kingdom scarabs (Ben-Tor 1997: 175). However, none of the seal amulets in the present corpus display this variant due to their early date.

Figure 5.46: Cowroid **586** and scaraboids **712** and **737** from Gebel el-Zeit all bearing the *anra* formula (Design Class 3C1) (Régen and Soukiassian 2008: 211, 256, 265).

The twelve scarabs, cowroids, and scaraboids (**499**, **560**, **582**, **586**, **645**, **712**, **720**, **737**, **748**, **759**) inscribed with the *anra* formula nearly all come from the Site 1 sanctuary at Gebel el-Zeit. Only two scarabs (**334**, **864**) are from tombs, tomb CC 41 at el-Khokha and Tomb 27 at Gurob, respectively (figs 5.45 and 5.46). Although the *anra* formula appears nearly exclusively on Second Intermediate Period scarabs from Egypt and Canaan, Richards (2001: 111, fig. 4.35) noted eleven examples of the base design motif from Eighteenth Dynasty contexts in Egypt and Palestine. The *anra* seal amulets from tombs at Gurob (**864**), Lachish, Tell el-'Ajjul, Gezer, and Megiddo all display typical Second Intermediate Period bodies, such as the 'Shesha' back and D-shaped heads.[196] This would likely allude to Second Intermediate Period manufactured scarabs that were kept as heirlooms and deposited into early Eighteenth Dynasty tombs. It is likely that the majority of the *anra* seal amulets in the corpus were made in the Second Intermediate Period, due to their trapezoidal heads and 'Shesha' backs and were deposited either in a contemporary votive deposit at the galena mines of Gebel el-Zeit, or that they were placed within the later tombs of CC 41 at el-Khokha and 27 at Gurob as heirlooms.

Interestingly, Richards (2001: 111, fig. 4.35) noted five *anra* scarabs from the Israel Museum that displayed characteristically Eighteenth Dynasty surface features, such as a lined back and A-type head and most notably *humeral callosities*. It appears that these scarabs were part of a later production of the unique hieroglyphic formula and that perhaps a small number of seal amulets of this nature were produced during the Eighteenth Dynasty.[197] This could perhaps explain two of the scarabs from Gebel el-Zeit (**582**, **720**) that both display A3 lunate heads and Type II lined backs, two features synonymous with the Eighteenth Dynasty; however, not completely unused in the Second Intermediate Period. Whether or not these two scarabs, and the others that Richards noted from Late Bronze Age/New Kingdom deposits, represent an Eighteenth Dynasty production of *anra* scarabs, it

[196] See above, Chapter 5.1.1.1.4 and 5.1.1.2.2 for discussions on the D-type heads and 'Shesha' backs, respectively.
[197] Weill (1918: 738) was certain that the *anra* scarab experienced a second popularity in Palestine during the reign of Thutmose III. Jaeger (1972: 295) remarked that a few seal amulets, mostly unprovenanced, were inscribed with both the *anra* formula and royal names of the Eighteenth and Nineteenth Dynasties. He also noted that the *anra* formula saw a slight resurgence during the Twenty-Fifth Dynasty.

is evident that although the motif represented a nonsensical hieroglyphic formula, it was still highly regarded enough to be kept as an heirloom, and in some cases even produced, after the end of the Second Intermediate Period.

Figure 5.47: Scaraboid **764** and scarab **766** from Gebel el-Zeit and scarab **788** from the Tomb of Maket bearing the *rdj-R‘* formula (Design Class 3C2) (Régen and Soukiassian 2008: 275; AN1890.782, © Ashmolean Museum).

The *rdj r‘* scarabs may also have been Egyptian made prototypes for the Palestinian *anra* motif (Ben-Tor 1997: 175). Unlike the *anra* motif, there are no omitted or added hieroglyphs on the *rdj r‘* scarabs. This undeviating usage of hieroglyphs is further evidence of their Egyptian origin. Along with the simple *R‘ r dj* inscribed upon the base, these seal amulets are almost always small in size. The three seal amulets bearing the formula from Gebel el-Zeit (**764**, **766**[198]) range in length from 6.5 to 7 mm in length, roughly half the average size of scarabs in the corpus (fig. 5.47). The solitary *rdj r‘* scarab from the Tomb of Maket (**788**) is slightly larger at eight millimetres in length. This motif is first seen in the late Middle Kingdom on exceptionally small examples but during the Second Intermediate Period slightly larger examples, generally made of crude faience, are seen. Ben-Tor (2004a: 33-34) noted that this type of scarab is ‘completely absent in Palestine’.

5.2.2.6. Other Notable Motifs

One interesting motif seen on seventeen seal amulets in the corpus (**359**, **371**, **401**, **406**, **434**, **437**, **480**, **482**, **543**, **545**, **547**, **632**, **643**, **711**, **724**, **746**, **758**) is a variation of the so-called *nb.ty* design (Design Class 3A2). The true *nb.ty* design is characterised by ‘two *nb* signs joined by a horizontal line, this group forming a base for various signs and symbols’ (Ward 1978: 68) and is a ‘royal’ symbol (Ben-Tor 2007: 16). This motif was very popular in the First Intermediate Period and early Middle Kingdom (Ben-Tor 2007: pl. 6) and can be seen on examples from the Montet Jar (Ben-Tor 1998: fig. 2).[199] From the Twelfth Dynasty onwards, this motif evolved to be replaced by variations

[198] The third example was found on Site 2 of Gebel el-Zeit and is the only seal amulet recorded from the area and was thus not included in the study corpus.
[199] For more information regarding the important early Twelfth Dynasty seal amulet assemblage found in the Montet Jar, see Ben-Tor (1998).

including the exclusion of the horizontal joining line. A common later variation included plants and the red crown. Ward (1978: 68) observed that the later Middle Kingdom variations 'bear little resemblance to their prototype, but the lines of development and alteration are quite clear.' Ben-Tor (2007: 76) remarked that the *nb.ty* design is not seen in the Second Intermediate Period in either Egypt or Palestine.

Ben-Tor (2015: 141, fig. 2) identified several early Eighteenth Dynasty variations of the *nb.ty* motif. The double *nb* signs with a horizontal joining line can be seen in some instances, such as on scarab **166** from Deir el-Bahri, **630** from Gebel el-Zeit, and **816** from Sedment (fig. 5.48); however, another possible variation or evolution of the motif that only occasionally depicted the double *nb* instead depicted the red crown and lotus flower commonly seen on *nb.ty* variations. The significance of the lotus flower has been discussed previously (Chapter 5.2.2.2). The red crown, a symbol of Lower Egypt was a very common motif, often in pairs, on scarab and seal amulets in both Egypt and Palestine from the First Intermediate Period onwards (Ward 1978; Tufnell 1984; Keel 1995: 170; Ben-Tor 2007).[200]

Figure 5.48: Scarabs **166**, **630**, and **816** bearing the *nb.ty* motif (Design Class 3A2) that was most popular in the First Intermediate Period and Middle Kingdom with some variations seen in the early Eighteenth Dynasty (MMA27.3.370, CC0 1.0; Régen and Soukiassian 2008: 226; E14138, © Penn Museum).

This motif is generally horizontally orientated with *tête-bêche* lotus buds at either end. The stems of these lotus buds curve and meet in the centre of the sealing plate in a C-swirl (Design Class 2A)[201]; this C-swirl creates the curled plume from the red crown, which is centrally depicted in a schematic fashion (figs 5.49 and 5.50). In some cases, such as scarab **545** from Gebel el-Zeit, the red crown is solely made from the lotus stems; however, on other seal amulets, such as cowroid **437**, a rectangle is added below to make the 'base' of the red crown. The lotus buds can either be shaped as ovals, or flat on one side in a *nb*-like manner. In addition, some examples (**371**, **406**) show only one lotus bud mirrored by a separate *nb* sign (with no attached stem). This motif is so far removed from the original *nb.ty* design that it cannot easily be considered part of Design Class 3A2[202]; however, it very likely

[200] Interestingly, unlike the red crown, the white crown of Upper Egypt never appears as a prominent motif on seal amulet base designs (Keel 1995: 171).
[201] There are some visual similarities between the lotus red crown motif and Design Class 2A (scrolls and spirals, unlinked). The spirals in 2A sometimes have lotus buds at the termini; however, these spirals do not curve to form other objects (Ben-Tor 2007: plate 75).
[202] There is at least one example of a true *nb.ty* motif with the lotus red crown above that dates to the early Eighteenth Dynasty, IMJ 76.31.3623 (Ben-Tor 2015: fig. 2.5).

Figure 5.49: Scarabs (top to bottom, left to right) **359**, **371**, **401**, **406**, **434**, **480**, **482**, **543**, **545**, **547**, **643**, and **711** from Gebel el-Zeit bearing the lotus and red crown base design (possible variation of the *nb.ty* motif) (Régen and Soukiassian 2008: 136, 140, 149, 151, 160, 175, 176, 197, 198, 230, 255).

evolved from the popular early Middle Kingdom motif and is not seen on any seal amulets predating the Eighteenth Dynasty (Ben-Tor 2007). Scarab **829** from Tomb 1723 at Sedment appears to be a further variation of this red crown and lotus motif.

Figure 5.50: Scarabs **724**, **746**, and **758** from Gebel el-Zeit and cowroids **437** and **632** bearing the lotus and red crown motif (possible variation of the *nb.ty* base design) (Régen and Soukiassian 2008: 261, 269, 273, 161, 230).

Ten seal amulets, all but one from Gebel el-Zeit (the final (**803**) from the Tomb of Maket), display simplistic forms of Design Class 4, Concentric Circles. Hornung and Staehelin (1976: 166) believed that the concentric circles represented the sun, and therefore the god Re; however, there is no conclusive evidence for this hypothesis. Ward (1978: 57) observed that the concentric circle motif was first popular in the First Intermediate Period on domed seal amulets. This motif is seen frequently on the Montet Jar scarabs (Ben-Tor 2004a: 34) but during the late Twelfth Dynasty, concentric circles experienced a drop in popularity in Egypt (Tufnell 1984: 124-125). However, during the early Palestinian series, elaborate examples of the motif can be seen (Ben-Tor 2007: pl. 58, 59). During the Second Intermediate Period, concentric circles became popular again and simplistic examples from Egypt seen in this period are very similar in appearance to the seal amulets from Gebel el-Zeit (Ben-Tor 2007: pl. 37). The examples in the present corpus range from two to six circles, sometimes arranged neatly, other times with no apparent order. The Gebel el-Zeit seal amulets conclusively date to the Second Intermediate Period based upon the parallels and their surface characteristics (Ben-Tor 2004a: 34, fig. 5; 2007: pl. 37).[203]

Few scarabs with concentric circles are known from the Eighteenth Dynasty. One interesting series with unknown provenance have the 'Shesha' back and B-type head with seven to eleven neat concentric circles bordering an oval within which the name of Senusret I is inscribed. While these

[203] All but one of the scarabs (**738**) bear unlined backs and schematic legs.

scarabs may seem typically Middle Kingdom, two of them include the name of Amenhotep II at the top (Ward 1971: fig. 29; 1994: 190). These scarabs are thus evidence of posthumous seal amulet manufacture, evidently to venerate the long deceased Twelfth Dynasty ruler. In the corpus, only one scarab definitively dates to the Eighteenth Dynasty. Scarab **569** from Gebel el-Zeit is inscribed with eight concentric circles that surround an oval within which the praenomen of Thutmose III is incised.

Figure 5.51: Scarab **100** from the foundation deposits inscribed with *nb t3.wy* 'Lord of Two Lands' and the name of Hatshepsut (MMA 27.3.261, CC0 1.0).

230 of the seal amulets in the corpus include the hieroglyphic sign *nb* in their base design. In ancient Egyptian, the basket hieroglyph meant 'lord', 'everything' or 'each'. Alternatively, the nature of its shape, flat on one side and rounded on the other, meant that it perfectly fits at the top or bottom of a sealing plate when vertical. In some instances, the hieroglyphic value of the sign was clearly meant to be taken at face value, such as scarab **100** from the foundation deposits inscribed with the common epithet, *nb t3.wy* 'Lord of Two Lands' (fig. 5.51). However, in other instances, such as on seal amulet **821**, there is no obvious reason why the *nb* sign was included in the base design other than to fill space. Perhaps the *nb* was simply included in many base designs as its shape fit the edges perfectly, did not detract from the central motif, and filled empty space. The need to fill empty spaces could stem from *horror vacui*, a 'fear of empty spaces', something seen in art of many cultures for multiple millennia.[204]

Figure 5.52: Scarab **822** inscribed with the name of Amun-Re flanked by *nb* signs (E14143, Penn Museum).

A number of *Jmn-R'* base designs are framed by *nb* signs (fig. 5.52). It is unclear if the craftsperson intended to inscribe 'Lord Amun-Re'. Many of the seal amulets have perpendicular *nb* signs to the left and right of *Jmn-R'*; in these instances, perhaps it should be translated literally as a dual *nb.wy,*

[204] Other well-known Egyptian examples of this 'fear of empty spaces' include a stela from Koptos from the Eighth Dynasty (Goedicke 1967: fig. 11) and the so-called 'Yellow' coffins, particularly of the Twenty-Second Dynasty. See the coffin of Djedptahiufankh, CG 61034, from Deir el-Medina as a prime example (Dodson 2000: 95).

'lords'. Perhaps the act of filling the sealing plate with signs was to ensure that the text could not be added to or altered by a later craftsperson, or perhaps the *nb* sign was only included to centre and frame the god's name on the sealing plate (Keel 1995: 171, 242)? Due to the variety of Amun and Amun-Re base motifs (see Chapter 5.2.2.1), it would be difficult to definitively confirm either way of the purpose of the *nb* sign.

5.2.2.7. Heart Scarabs

While not technically a typical base design motif, special mention must be made regarding the 'heart scarabs' of the Eighteenth Dynasty. Three of the scarabs in the corpus are heart scarabs (**250**, **272**, **353**) and these amulets served a very specific purpose to the owner. Unlike the rest of the seal amulets that could have been worn in life and then brought with the owner into the tomb, heart scarabs were specifically produced to be used in funerary contexts (Richards 2001: 2). Generally, heart scarabs were larger than the average scarab[205] reaching up to 100 mm or more in length and were frequently made of green jasper or serpentine (Andrews 1994: 57).[206] Furthermore, instead of a base motif traditionally inscribed on seal amulets, heart scarabs were engraved with a portion of Spell 30 from *The Book of the Dead*, which persuades the heart of the deceased to appear pure when being weighed against the feather of *maat* by Anubis ensuring a positive outcome that allowed the deceased to enter into the afterlife (Faulkner 1972: 27-28; Malaise 1978; Andrews 1994: 56-59). All three heart scarabs are inscribed with the spell; however, scarab **353** from Tomb CC 41 at el-Khokha is unfinished. The back and profile are well carved in green jasper; conversely the base has two horizontal registers of crudely incised hieroglyphs. A third horizontal line is carved to allow the text to continue; yet the hieroglyphs were never carved (fig. 5.53). A hypothesis for the presence of this unfinished scarab on

Figure 5.53: Unfinished heart scarab of Khay (**353**) from Tomb CC 41 at el-Khokha (MMA 16.10.402, CC0 1.0).

[205] The average length for a scarab amulet in the early Eighteenth Dynasty, based on the present corpus, is 14.5 mm with 15 mm as the most common length.
[206] All three of the heart scarabs in the corpus were made of either green jasper or serpentine. For further information about these stones, see Chapter 4.1.

the burial of Khay in CC 41 is that perhaps Khay died earlier than expected and thus the commissioned heart scarab had to be placed within the linen bandages unfinished.[207]

A few rare examples of heart scarabs date to the late Middle Kingdom,[208] but they become more popular and commonly seen on mummies from the New Kingdom onwards.

5.2.3. Name and Title Seal Amulets (Design Class 11A & B)

Scarabs, scaraboids, and cowroids with the name and/or titles of a member of the royal family (Design Class 11A) make up 26% of the study corpus of seal amulets with a total of 230 examples. Unlike earlier periods when only a small percentage of seal amulets bore royal names and titles, the early Eighteenth Dynasty saw an emphasis on them (Ben-Tor 2015: 142). The majority of these royal seal amulets were from the foundation deposits of *Djeser-djeseru* with 166 examples (71% of the site's total seal amulet assemblage). This is to be expected considering the nature of the site, which will be discussed below (see Chapter 5.2.3.5). The widest array of royal names found on any site was Gebel el-Zeit with royal names ranging from those of the Second Intermediate Period (Chapter 5.2.3.10) to those from the very end of the Eighteenth Dynasty (Chapter 5.2.3.9). Again, this is to be expected as Gebel el-Zeit was used from the Second Intermediate Period until the beginning of the Ramesside Period (see Chapter 3.2.7 for more information about the site).

There are only five examples of seal amulets with a private, non-royal name (Design Class 11B). These will be discussed briefly below (Chapter 5.2.3.11).

5.2.3.1. Ahmose-Nefertari

The tombs from el-Khokha, tombs CC 37 and CC 40, date from the end of the Second Intermediate Period to the early Eighteenth Dynasty; however, there are no seal amulets in the present corpus that were inscribed with the name of the founder of the Eighteenth Dynasty, Nebpehtire Ahmose.[209] Jaeger (1982: 254) did note that many posthumous scarabs were produced in his name with a wide variety of spellings, including cryptographic ones.

There are, however, six seal amulets (**238**, **322**, **407**, **670**, **696**, **752**) that are likely inscribed with the name of his principal queen Ahmose-Nefertari. Ahmose-Nefertari was the chief wife of Ahmose,

[207] To reiterate, steatite unfinished scarabs are never seen in deposits such as tombs or foundation deposits, but perhaps the colour and hardness of semi-precious stones allowed them to have amuletic power, even if unfinished (see Chapter 6.3.2 for further information about unfinished scarabs).
[208] The earliest known example is a human-headed, green jasper and gold heart scarab from the Theban burial of King Sobekemsaf II of the Seventeenth Dynasty (BM EA7876). With its human head and its base set into a gold stela-shaped block, it differs greatly from the heart scarabs of the New Kingdom, such as those in the corpus (Miniaci *et al.* 2013).
[209] One scarab from Gebel el-Zeit (**521**) could possibly be inscribed with the praenomen of Ahmose, however it is more likely that of Amenhotep III. See Chapter 5.2.3.8 for further discussion.

was the mother and possible co-regent of the second ruler of the Eighteenth Dynasty, Amenhotep I, and lived into her son's successor, Thutmose I's reign (Bryan 2000: 223, 228-229).

Four of the seal amulets of Ahmose-Nefertari (**407**, **670**, **696**, **752**), all from Gebel el-Zeit, bore her most popular title *Ḥm.t nṯr Nfr.t-jry* 'God's Wife Nefertari' (fig. 5.54). Ahmose-Nefertari gained the title of 'God's Wife of Amun', which was aside from her queenly titles, during the reign of Ahmose, her brother and husband. This title was new in the Eighteenth Dynasty and her mother, Queen Ahhotep, was the first to bear it. She maintained this title until her death, as inscribed on the stela of a non-royal individual at the time of her death (Bryan 2000: 229; Dodson and Hilton 2004: 125-128).

Figure 5.54: Scarab **670** base inscribed with 'God's Wife Nefertari' (Régen and Soukiassian 2008: 241).

A scarab ring (**238**) from the Tomb of Hatnefer and Ramose is inscribed with her queenly title of *Ḥm.t nsw.t wr J'ḥ-ms* 'King's Great Wife, Ahmose'. While 'King's Great Wife' was the main title for the principal queen in ancient Egypt, Ahmose-Nefertari used this title far less than her 'God's Wife of Amun' title (Bryan 2000: 229), as reflected in the corpus.

A fish scaraboid (**322**) from Tomb CC 37 at el-Khokha is merely inscribed with the name Nefertari within a cartouche.

5.2.3.2. Djeserkare Amenhotep I (date of reign c. 1525-1504 BCE)

At least six, and possibly eleven, seal amulets in the corpus bear the name of the second ruler of the Eighteenth Dynasty, Djeserkare Amenhotep I. Five of the scarabs (**293**, **579**, **683**, **753**, **754**) and one cowroid (**854**) are certainly inscribed with his name as they have his praenomen *Ḏsr-k3-R'*. Two of

Figure 5.55: Base of jasper scarab **293** from Tomb CC 37 bearing the praenomen and nomen of Amenhotep I (MMA 26.7.133, CC0 1.0).

these scarabs, one from Tomb CC 37 (**293**) and one from Gebel el-Zeit (**579**) are inscribed with both his praenomen and nomen, *Ḏsr-k3-R‘ Jmn-ḥtp* (fig. 5.55).

Four scarabs (**394**, **446**, **538**, **546**) and one rectangular bifacial plaque (**418**) from Gebel el-Zeit bear only the name *Jmn-ḥtp*, which was the nomen of four kings of the Eighteenth Dynasty. These seal amulets are believed to be inscribed with the name of Amenhotep I in part due to the Second Intermediate Period features on some of the scarabs, primarily the ‘Shesha’ back on **446** and **546**, a feature that was seldom seen after the early Eighteenth Dynasty (see Chapter 5.1.1.2.2 above) (fig. 5.56).

Figure 5.56: Scarab **446** from Gebel el-Zeit inscribed only with the nomen Amenhotep. The body features are more common for the Second Intermediate Period (Régen and Soukiassian 2008: 164).

Both Amenhotep I and his mother Ahmose-Nefertari (see above) were deified after their deaths and were worshipped at Deir el-Medina, a town that they may have founded in the early Eighteenth Dynasty (Bryan 2000: 223). Thus, there are many posthumously produced scarabs from the Ramesside Period bearing his name (Jaeger 1982: 255), and perhaps that of Ahmose-Nefertari, as well. Unfortunately, the style of both the contemporary and posthumous seal amulets bearing the name of Amenhotep I are fairly similar and difficult to differentiate. Therefore, it is possible that some of the nine seal amulets bearing his name from Gebel el-Zeit may be posthumous productions, whereas the seal amulets from el-Khokha (**293**) and Gurob (**854**) must be contemporary due to the tombs being sealed in the early Eighteenth Dynasty. Considering the scarabs of Amenhotep I in this corpus all bear characteristic Second Intermediate Period or Eighteenth Dynasty features (and not features mentioned by Jaeger (1982: 255) to be posthumous), they are unlikely later productions.

5.2.3.3. Aakheperkare Thutmose I (date of reign c. 1504-1492 BCE)

There are six seal amulets in the corpus bearing the praenomen of Thutmose I, three from Gebel el-Zeit (**575**, **576**, **682**), one from the Tomb of Neferkhawet (**284**), another from CC 41 (**355**), and the final from the Tomb of Maket (**796**). Thutmose I, the successor of Amenhotep I, does not appear to have been a direct descendant of his predecessor; however, he stands with both his mother and Ahmose-Nefertari on his coronation stela, likely as a means of legitimization. The numerous and

wide variety of epithets[210] and royal emblems found on Thutmose I's seal amulets were likely used to further enforce his claim to the throne (Jaeger 1982: 257; Bryan 2000: 230-231).

A finely carved bird scaraboid (**575**) has the praenomen of Thutmose I and his titles poorly inscribed upon the base (fig. 5.47). Falcons featured prominently on base designs of Thutmose I seal amulets, which perhaps explain the use of the falcon scaraboid. The base appears to read *'3-ḫpr-[k3]-R' ḥ'.w mj R'* 'Aakheperkare appearance in glory like Re'; however, the crude inscription makes for the identification of the signs other than the name of Thutmose I difficult. Few parallels are known of this inscription on this scarab and Jaeger (1982: 256-257) does not list it among the multiple epithets known from Thutmose I seal amulets. However, 'rare epithets' are used on seal amulets from the reigns of Thutmose I to Amenhotep III.

Figure 5.57: Falcon scaraboid **575** from Gebel el-Zeit crudely inscribed with the praenomen of Thutmose I (Régen and Soukiassian 2008: 207).

Another interesting example is scarab **682**, which depicts upon its base a kneeling woman with her arms in front of her holding the cartouche of Thutmose I. *nṯr nfr* is incised below the cartouche, a title which Jaeger (1982: 256) noted was one of the most common for seal amulets of Thutmose I.

A final scarab of significance is **796** from the Tomb of Maket. The crude base inscription bears the praenomen of Thutmose I as well as what appears to be *mrj Jmn-R'* (fig. 5.58). The difficult to distinguish *mrj* and *R'* signs may in fact be a single sign that appears similar to an abstract red crown (as has been rendered by Hankey and Tufnell 1973: fig. 3.1). Visual examination of the scarab has not clarified the matter. Regardless, the presence of the name of Amun or Amun-Re on this scarab makes it one of the earliest known royal name scarabs with the deity's name (Jaeger 1982: 257).

Figure 5.58: Scarab **796** from the Tomb of Maket inscribed with the name of Thutmose I and the name of Amun or Amun-Re (AN1890.766, © Ashmolean Museum).

[210] Jaeger (1982: 259) noted that around twenty royal epithets and titles used during Thutmose I's reign had not be seen prior.

There is no evidence of a significant posthumous production of seal amulets bearing the name of Thutmose I (Jaeger 1982: 256).

5.2.3.4. Aakheperenre Thutmose II (date of reign c. 1492-1479 BCE)

Little is known of the reign of Thutmose II and some scholars believe that it only lasted a few years before his death (Bryan 2000: 295; Dodson and Hilton 2004: 130). A short and ephemeral reign could account for the general lack of seal amulets bearing his name.[211]

Two simple, Type I cowroids (**255**, **256**) from the Tomb of Hatnefer and Ramose at Sheikh 'Abd el-Qurna both bear the praenomen of Thutmose II.

Figure 5.59: Base of scarab **296** from Tomb CC 37 inscribed with the praenomen of Thutmose II above the back of a recumbent jackal (MMA 26.7.145, CC0 1.0).

A scarab (**296**) from Tomb CC 37 at el-Khokha also bears the praenomen of the ruler; however, the predominant feature of this base design is a recumbent jackal beneath the king's name (fig. 5.59). The canine on this scarab is one example of the wide variety of iconography seen on the few seal amulets of Thutmose II (Jaeger 1982: 257-258).

Finally, a green jasper quadratic prism (**807**) from the Tomb of Maket is inscribed with the names and titles of Thutmose II on all four sides.

5.2.3.5. Maatkare Hatshepsut (date of reign c. 1473-1458 BCE)

The majority of the royal name seal amulets in the corpus belong to Queen Hatshepsut. This is unsurprising due to the sheer quantity of scarabs found in the foundation deposits of her Deir el-Bahri mortuary temple, *Djeser-djeseru* (see Chapter 3.2.1). Out of the 234 seal amulets found within the foundation deposits, 128 (55%) bear Hatshepsut's name and titles, which Hayes deemed 'one of the most remarkable finds of royal seals ever made' (Hayes 1959: 88).[212] The necessity of having such a large number of royal name and title seal amulets in this context is due to the 'stretching of the cord'

[211] Jaeger (1982: 257) only noted seventy-nine seal amulets bearing the name of Thutmose II.
[212] Hayes believed that these seal amulets were used as, or intended to be used as, royal seals due to the sheer number of royal names and titles. However, it is generally accepted that these seal amulets, as well as many others, were never intended as seals and their primary purpose was amuletic (Ben-Tor 2015: 139). See Chapter 1.2 for further information.

ceremony, which required an evocation of the ruler Hatshepsut whose name is mentioned on the majority of the artefacts found in the foundation deposits (Hayes 1959: 84-88; Weinstein 1973: 117). Seal amulets with the names and titles of Hatshepsut were found primarily in Theban contexts, especially in the foundation deposits, with three further seal amulets found in contemporary Theban tombs, those of Hatnefer and Ramose (**236**, **237**) and CC 37 (**315**).

Both her praenomen, Maatkare, and her nomen, Hatshepsut, appear on many of the scarabs, as well as titles such the Female Horus, Wosretkau, and the God's Wife, *ḥm.t nṯr*. The Hatshepsut royal name seal amulets have been separated into nine categories[213]:

1. Name only
2. Name flanked by addorsed red crowns (3B3b or d)
3. Name and/or title with *ankh*
4. *M3ʿt-k3-Rʿ mrj Jmn*
5. *Ḥ3.t-špsw.t ḫnm Jmn*
6. *Ḥm.t nṯr Ḥ3.t-špsw.t*
7. *nb t3.wy M3ʿt-k3-Rʿ*
8. *nsw.t bjtj M3ʿt-k3-Rʿ*
9. Falcon iconography (including, *Wsr.t-k3.w*)

1. Name only

Thirteen scarabs were merely inscribed with the praenomen or nomen of the queen, four with Maatkare (**003**, **039**, **041**, **042**) and nine with Hatshepsut (**032-034**, **060**, **062**, **063**, **068**, **069**, **071**).[214]

2. Name flanked by addorsed red crowns (3B3b)

Nine scarabs are engraved with the praenomen of the queen flanked by addorsed red crowns (**001**, **016-019**, **031**, **036**, **037**, **184**). Tufnell has divided the addorsed red crowns into two separate subcategories based upon the style of the depicted crown. Design Class 3B3b has the red crowns fully formed (fig. 5.60), whereas 3B3d shows the red crowns carved crudely as 'L'-shapes. This latter type of crude red crown can be seen unaddorsed elsewhere in the corpus, such as in figures 5.49 and 5.50; all of the red crowns flanking the name of Hatshepsut were fully formed (3B3b). These Hatshepsut seal amulets may display aspects of multiple categories; scarab **184** displays the

Figure 5.60: Base of scarab **001** displaying the praenomen of Hatshepsut flanked by outward facing red crowns (base design class 3B3b) (MMA 27.3.221, CC0 1.0).

[213] Some of the seal amulets will display features of multiple categories, such as scarab **114** that has the *ḥm.t nṯr* title as well as an ankh.
[214] All of the seal amulets inscribed with the name and titles of Hatshepsut were discovered in the *Djeser-djeseru* foundation deposits unless otherwise stated.

praenomen of Hatshepsut, the addorsed red crowns, an *ankh* (see below), and the title *nb t3.wy* (see below).

3. Name/title with *ankh*

Fourteen scarabs (**020**, **035**, **038**, **040**, **043**, **044**, **064**, **090**, **093**, **104**, **105**, **114**, **118**, **184**) and three cowroids (**223**, **226**, **227**) all bear the name of the queen alongside an *ankh*. In some cases, the ankh, or ankhs, are the only additional signs on the sealing plate, but in other instances, a suffix is added to read either *ʿnḫ.s* or *ʿnḫ.tj*, translated as 'she lives' or 'may she live'. Four scarabs (**093**, **104**, **105**, **114**) are inscribed with *ʿnḫ dj.t* 'given life forever'. All but two of these seal amulets display the praenomen of the queen, Maatkare, engraved on the base; the others are inscribed with Hatshepsut or Wosretkau (see below).

4. *M3ʿt-k3-Rʿ mrj Jmn*

The foundation deposits had many seal amulets invoking the god Amun or Amun-Re.[215] Of the sixteen seal amulets that have both the deity's name and that of the queen, only four (**091**, **092**, **224**, **225**) are inscribed with her praenomen (fig. 5.36). Three of which are inscribed with the phrase *M3ʿt-k3-Rʿ mrj Jmn* 'Maatkare beloved of Amun' and two of these seal amulets are *wedjat* eye scaraboids (see Chapter 5.1.3.1). The fourth seal amulet (**092**) inscribed with both Hatshepsut's praenomen and the name of Amun bears the phrase *M3ʿt-k3-Rʿ ḥnm Jmn* 'Maatkare, united with Amun' (see below).

5. *Ḥ3.t-špss.wt ḥnm Jmn*

The other twelve examples of seal amulets bearing the name of Amun or Amun-Re along with the queen's, are all scarabs inscribed with *Ḥ3.t-špss.wt ḥnm Jmn* 'Hatshepsut, united with Amun' (**002**, **004**, **021**-**030**; fig. 5.36).

6. *Ḥm.t nṯr Ḥ3.t-špss.wt*

The most popular title of Hatshepsut for the seal amulets in the corpus is *ḥm.t nṯr Ḥ3.t-špss.wt* 'God's Wife Hatshepsut' with twenty-five scarabs and cowroids bearing the inscription (as can be seen on the base of cowroid **222** in fig. 5.39). Two further scarabs from the foundation deposits are presumably missing the *nṯr* and are merely inscribed as 'wife, Hatshepsut' (**011**) or 'living wife, Hatshepsut' (**013**) (fig. 5.61). Possibly these were carved by a novice craftsperson that forgot the additional hieroglyph or perhaps ran out of space, as 'wife' alone was not a title of Hatshepsut.[216] The title *ḥm.t nṯr* was frequently held by the most powerful woman of any given reign, which was usually the principal queen (Roehrig 2005: 143).[217]

[215] See Chapter 5.2.2.1 for further discussion on the seal amulets bearing the name of the god Amun or Amun-Re.
[216] Other royal 'wifely' titles include 'king's great wife'.
[217] Note that Ahmose-Nefertari (Chapter 5.2.3.1) held the title during the reign of her consort Ahmose, as well as during the succeeding two reigns, that of Amenhotep I and Thutmose I. Furthermore, Neferure (see below) held the title while she was still a princess after her mother ascended the throne.

Ben-Tor (2015: 143) noted that the title 'god's wife' predates Hatshepsut's reign and therefore it stands to reason that her birth name is inscribed along with the title rather than her throne name. Once Hatshepsut became the ruler, and gave herself the praenomen Maatkare[218], the title of *ḥm.t nṯr* was passed onto her daughter, Neferure (see below). However, there is one example, scarab **089**, that is curiously inscribed with *ḥm.t nṯr M3't-k3-R'*, a combination of her typically queenly title and her kingly throne name, which may mean that Hatshepsut adopted a throne name before she handed over the 'god's wife' title to her daughter. Or, perhaps this scarab, and maybe others, was created after Hatshepsut became the sole ruler and was inscribed with her pre-kingship title in a legitimisation effort.[219]

Figure 5.61: Scarabs **011** and **013** from the foundation deposits bearing incomplete titles of Hatshepsut (MMA 27.3.193, 194, CC0 1.0).

The only seal amulets in the corpus inscribed with the name of Hatshepsut outside of the foundation deposits (**236**, **237**, **315**) all bear this title, as well. Tomb CC 37, where scarab ring **315** was found upon the left hand of deceased man, dates from the late Seventeenth to the early Eighteenth Dynasty. Scarabs **236** and **237** were both found in the Tomb of Hatnefer, one on the left hand of Hatnefer (250) and the other (**237**) amongst the hand bones of an unidentified body.[220]

7. *nb t3.wy M3't-k3-R'*

Figure 5.62: Base of scarab **113** from the foundation deposits inscribed with *nb.t t3.wy* (3A5) using the feminine suffix to mark Hatshepsut's gender (MMA 27.3.263, CC0 1.0).

Fourteen seal amulets bear the title *nb t3.wy* 'Lord of Two Lands' (3A5) and the queen's praenomen (**079**, **093**, **100-102**, **104**, **105**, **111**, **177**, **180**, **181**, **184**, **226**, **227**; see fig. 5.51). The 'two lands' being

[218] Only rulers had praenomens, which were essentially coronation names (Dorman 2005d: 88).
[219] See below for further discussion regarding the usage of Hatshepsut's pre-kingship name and titles as a method of legitimising her reign as a female ruler.
[220] See Chapter 3.2.2 for further information about the archaeological context of the Tomb of Hatnefer and Ramose at Sheikh 'Abd el-Qurna.

Upper and Lower Egypt, this title is one held by the rulers of Egypt. Unlike other kings, three further scarabs (**113**, **193**, **196**) are inscribed with the feminine *nb.t* instead, translating as 'Lady of Two Lands' (fig. 5.62). This combination of a kingly title with a feminine suffix emphasises Hatshepsut's unique role in the Eighteenth Dynasty.

8. *nsw.t bjtj M3't-k3-R'*

Eight scarabs (**080**, **098**, **099**, **116**, **117**, **178**, **179**, **219**) bear the *nsw.t bjtj* title, which means 'King of Upper and Lower Egypt' as depicted by a sedge plant and a bee (3B2; fig. 5.63). Three of the scarabs (**178**, **179**, **219**) have the queen's name within a cartouche.

Figure 5.63: Base of scarab **116** from the foundation deposits bearing the praenomen of Hatshepsut and the *nsw.t bjtj* (3B2) sedge and bee meaning 'King of Upper and Lower Egypt' (MMA 27.3.247, CC0 1.0).

9. Falcon iconography (i.e. *Wsr.t-k3.w)*

Finally, sixteen scarabs bear falcon iconography upon their base (9H). Six of the scarabs are inscribed with the queen's praenomen Maatkare and an image of a falcon in flight (**045**, **046**; 9H4), a pair of falcons flanking the name (**064**, **103**, **180**; 9H2), or a falcon with wings outstretched around the queen's name (**066**; 9H1).

Eight scarabs (**005**, **006**, **083**, **094**, **095**, **108**, **110**, **118**) have Hatshepsut's Horus name *Wsr.t-k3.w* inscribed upon the base, which is translated as 'the female Horus' (fig. 5.64; 9H1). Two more scarabs invoke the god Horus alongside the queen and are inscribed with 'perfect Horus, Maatkare' (**096**) and 'female golden Horus' (**176**).

Figure 5.64: Base of scarab **083** inscribed with Hatshepsut's Horus name (MMA 27.3.285, CC0 1.0).

Although all of the seal amulets that bear depictions of falcons, a creature representing kingship (see Chapter 5.2.2.3), alongside the queen's name on the sealing plate either use her praenomen Maatkare

or her Horus name Wosretkau, one scaraboid in the shape of a falcon (**221**) bears her birth name Hatshepsut.

Unlike most of the other royal name scarabs in this corpus[221], many of the seal amulets of Hatshepsut bear the ruler's birth name (*nomen*) instead of her throne name (*praenomen*). Furthermore, titles such as 'god's wife'[222] that were held by Hatshepsut before her reign are also seen a great many times on the seal amulets. Ben-Tor (2015: 142) noted that by placing these seal amulets that bore her pre-kingship name and titles, in the foundation deposits of her mortuary temple, which was deposited during Hatshepsut's sole reign, 'can be explained as part of her attempt to legitimise her seizure of the throne'.

Interestingly, there were no seal amulets bearing the names or titles of Hatshepsut at Gebel el-Zeit, a site in which seal amulets of almost every other significant royal person of the early Eighteenth Dynasty can be found. Perhaps this is due to a lack of galena mining during her reign. Another potential reason for the lack of Hatshepsut scarabs throughout Egypt could be due to the *damnatio memoriae* inflicted against her by her co-regent and nephew Thutmose III after her death, which resulted in a lack of posthumously produced seal amulets (Jaeger 1982: 258). In contrast, there were sixteen scarabs, the most of any royal person, bearing the praenomen of her co-regent and successor, Thutmose III, at the site (see below).

Figure 5.65: Base of scarab **088** inscribed with the name of Princess Neferure and the title 'King's Daughter' (MMA 27.3.323, CC0 1.0).

A further fifteen scarabs, all from the foundation deposits (**087**, **088**, **122-127**, **129**, **152**, **153**, **171**, **173**, **174**), barring one from below the Tomb of Hatnefer and Ramose (**271**), bear the name of Hatshepsut and Thutmose II's daughter Neferure. Neferure held two particularly notable titles during her life, both seen on the scarabs in the foundation deposits. 'King's Daughter' *s3.t nsw.t* was a typical title for a princess and a title that Hatshepsut herself held earlier in her life. Scarab **088** is inscribed with *s3.t nsw.t Nfr.w-R'*, whereas scarab **153** merely reads *s3.t Nfr.w-R'* (fig. 5.65). It is safe to assume that the latter scarab is an abbreviation of the title. It is difficult to know whether the *nsw.t*,

[221] For example, all of the seal amulets from Thutmose III (see Chapter 5.2.3.6) are inscribed with his praenomen Menkheperre. However, many of the seal amulets presumably of Amenhotep I are inscribed solely with his nomen, or birth name (see Chapter 5.2.3.2).
[222] Ben-Tor (2015: 142-143) noted that there are other seal amulets from the foundation deposits (not seen in the present corpus due to lack of accessibility) that bear the titles 'king's daughter' and 'king's great wife' (four and one, respectively) and bear the name of Hatshepsut.

or 'king', here is referring to her father Thutmose II or mother Hatshepsut (Roehrig 2005: 143). A third scarab (**127**), also from the foundation deposits is inscribed with *s3.t nsw.t* and an unidentified thin rectangular sign. This scarab doesn't explicitly state that the 'king's daughter' refers to Neferure. However, based on the present corpus, in that all but one of the 'king's daughter' seal amulets in the corpus belong to the princess[223], it is likely that this scarab also invokes Neferure. However, Ben-Tor (2015: 142-143) noted that there is a total of four scarabs with 'king's daughter Hatshepsut' inscribed upon their bases discovered within the foundation deposits, but these three additional examples reside in Cairo and have not been seen by the present author.

The rest of the Neferure scarabs (the majority with eleven examples) have the title *ḥm.t nṯr* 'God's Wife', a title previously held by both her mother Hatshepsut and Ahmose-Nefertari (see above). Five of these examples include an ankh on the sealing plate.

5.2.3.6. Menkheperre Thutmose III (date of reign c. 1479-1425 BCE)

Seal amulets bearing the name of Thutmose III can be found throughout Egypt, Nubia, and the Levant and have been extensively studied, particularly by Jaeger (1982), who noted that they can be difficult to date when not found in a secure context. This is due to the practice of creating posthumous scarabs bearing kings' names, which was common in ancient Egypt for especially venerated royalty.[224] In the case of Thutmose III, scarabs were still being manufactured bearing his name one thousand years after his death (Jaeger 1982; Ward 1994: 189-190; Lohwasser 2014b).[225] As the majority of the contexts in this study date to the mid Eighteenth Dynasty at the latest, it is unlikely that the seal

Figure 5.66: Base of scarab **085** inscribed with the dual cartouches of co-regents Hatshepsut and Thutmose III (MMA 27.3.320, CC0 1.0).

amulets in this corpus are posthumous.

[223] The outlier is scarab **061** that is inscribed with *s3(.t) nsw.t H3t-šps.wt*.
[224] For example, a group of scarabs bearing the name of Senusret I was made five hundred years after his death (Ward 1971: 134-136).
[225] Jaeger (1982: 185-187) noted 144 examples of seal amulets bearing the praenomens of both Thutmose III and Seti I, which were likely manufactured throughout the Ramesside period (Jaeger 1982: 265-266). Seal amulets bearing the Eighteenth Dynasty king's name were made until at least the Twenty-Fifth Dynasty (Jaeger 1982: 267).

The largest group of seal amulets bearing the name and titles of Thutmose III was found in the foundation deposits of *Djeser-djeseru*, the mortuary temple of Thutmose III's aunt and co-regent Hatshepsut. In total, twenty-three scarabs and one cowroid bearing the praenomen of Thutmose III were found in three pits underneath the temple's foundations. It is certain that these seal amulets are contemporaneous with the joint reign of Hatshepsut and Thutmose III as the foundation deposits were sealed during the first half of the queen's sole reign.[226] Further evidence of the co-regency is scarab **085** engraved with the double cartouche of the co-regents (fig. 5.66). Roehrig (2005: 143) noted that in Egyptian iconography the name inscribed on the right-hand side of a double cartouche would be considered the more dominant individual. In this case, scarab **085** demonstrates that Hatshepsut intended to be, and likely was, the more senior co-regent of the pair.

Curiously, there are a fair amount of deviant spellings of Thutmose III's praenomen, Menkheperre, on the foundation deposit seal amulets. Six scarabs (**120**, **121**, **128**, **182**, **183**, **186**) have the co-regent's praenomen inscribed as *Mn-ḫpr-n-R'* (fig. 5.67). Another deviant spelling of the king's praenomen can be found on a cowroid (**793**) from the Tomb of Maket, which is inscribed with *Mn-ḫpr-k3-R'* (fig. 5.67). This version of his praenomen occurs most often, out of all mediums, including inscribed on the walls of Queen Hatshepsut's mortuary temple (Davies 2004: 60-61). Naville (1898: 9) believed the added *k3*, which was also in the praenomen of Hatshepsut, was inserted to demonstrate the queen's superior status over her co-regent, as it was only used when there might be fear that the scene could depict Thutmose III at the same rank as Hatshepsut. Furthermore, Jaeger (1982: 261) remarked that this variant of the praenomen was only seen on contemporary seal amulets and never on posthumous scarabs. The other seven seal amulets inscribed with Thutmose III's name found within the Tomb of Maket are all inscribed with his standard praenomen *Mn-ḫpr-R'*.

Figure 5.67: Scarab **121** (left) inscribed with the Thutmose III praenomen variation *Mn-ḫpr-n-R'* (MMA 27.3.298). Cowroid **793** (right) bearing the variation *Mn-ḫpr-k3-R'* (AN1890.769 © Ashmolean Museum).

Other than a single scarab engraved with his praenomen at el-Khokha (**340**), the rest of the Thutmose III seal amulets were found at Gebel el-Zeit. The sixteen seal amulets found in and around the sanctuary provide further evidence that the site experienced a peak in use during the king's reign (as discussed in Chapter 3.2.7). However, as Gebel el-Zeit was in use until the reign of Ramesses II, it is possible that some of the seal amulets inscribed with the ruler's name are posthumous.[227] Amongst

[226] See Chapter 3.2.1 for further information about the archaeological context of the foundation deposits.
[227] See Chapter 3.2.7 for further information on the dating of Gebel el-Zeit Site 1.

the Gebel el-Zeit Thutmose III seal amulets are three bifacial plaques (**405**, **659**, **662**). The oval bifacial plaque **405** is inscribed with *Jmn-R‘* on the opposite face bearing Thutmose III's praenomen. As discussed above (Chapter 5.2.2.1), seal amulets bearing Amun-Re's name became very common during the reign of Hatshepsut and therefore this plaque is likely contemporary with Thutmose III's reign. The other two bifacial plaques bear the names of other deities. Cartouche-shaped plaque **659** has his praenomen inscribed on one face and his nomen, *Ḏḥtj-ms*, inscribed on the other. Both sides also bear the phrase *mrj Sbk-R‘ nb Sw-mn.w*, 'beloved of Sobek, lord of Sumenu' (fig. 5.68). This bifacial plaque bears not only the solitary mention of this deity found in the corpus, but also the only use of Thutmose III's nomen. Jaeger (1982: 262) noted that this particular epithet is a revival from the Middle Kingdom and that its first attestation in the Eighteenth Dynasty was during the reign of Thutmose III, which Jaeger links with a revitalisation of the deity's cult under the king. The third plaque, carved of lapis lazuli (**662**), instead bears Thutmose III's praenomen on one face and an invocation to the god Ptah on the other. Keel (1989c: 294-295) noted that most seal amulets bearing Ptah date to the Nineteenth Dynasty but that there are some examples from the Eighteenth, such as this one.

Figure 5.68: Cartouche-shaped plaque **659** inscribed with the praenomen and nomen of Thutmose III along with an invocation of the god Sobek (Régen and Soukiassian 2008: 237).

The seal amulets under the reign of Thutmose III demonstrate a marked difference from those of the early Eighteenth Dynasty, perhaps in an attempt to distance himself from the long co-regency with Hatshepsut (Jaeger 1982: 260-262; Ben-Tor 2015: 144).[228]

5.2.3.7. Aakheperure Amenhotep II and Menkheperure Thutmose IV (date of reigns c. 1425-1390 BCE)

There are no seal amulets in the corpus bearing the names of Amenhotep II or Thutmose IV. Combined, these kings reigned for approximately thirty-five years. The lack of seal amulets bearing their names is likely because the latest securely and tightly provenanced site dates to the reign of Thutmose III, the predecessor of Amenhotep II. Furthermore, there appears to have been a hiatus in the use of Gebel el-Zeit after the reign of Thutmose III and before the sanctuary builders of Amenhotep III arrived (see Chapter 3.2.7).

[228] See Chapter 7.2 for further discussion on the changes in scarab features during the reign of Thutmose III.

It is possible that some of the seal amulets bearing simply *Jmn-ḥtp* refer to Amenhotep II; however, as these amulets bear characteristics more often seen in the early Eighteenth Dynasty, they likely date to the reign of Amenhotep I (see above).

5.2.3.8. Nebmaatre Amenhotep III (date of reign c. 1390-1352 BCE)

Two scarabs (**403**, **522**) and one *wedjat* eye scaraboid (**675**) definitively have the name of Amenhotep III inscribed upon their bases. Unlike the five seal amulets tentatively ascribed to Amenhotep I (see above), all three of these seal amulets are known to be of Amenhotep III due to his unique praenomen *Nb-m3ʿt-Rʿ* carved into each. All three examples were found at Gebel el-Zeit, the only site in the corpus that postdates the reign of Thutmose III. Furthermore, the sanctuary at Site 1 was built during Amenhotep III's reign (see Chapter 3.2.7) after likely being abandoned after Thutmose III.

A third scarab from Gebel el-Zeit (**521**) bears a horizontal cartouche inscribed with difficult to read hieroglyphs above *mrj Jmn*; the hieroglyphs in this cartouche are believed to be read as *Nb-m3ʿt-Rʿ* (fig. 5.69). The sign causing confusion, the *m3ʿt* hieroglyph, could instead be a schematic rendering of the lion *pḥty* sign, which would then be read as *Nb-pḥty-Rʿ*, Nebpehtyre Ahmose. However, both the excavators and the present author believe this scarab should be read as *Nb-m3ʿt-Rʿ mrj Jmn* 'Nebmaatre beloved of Amun' as the scarab is more characteristically mid-Eighteenth Dynasty rather than late Second Intermediate Period/early Eighteenth Dynasty scarabs seen during the reign of Ahmose (Régen and Soukiassian 2008: 189).

Figure 5.69: Scarab **521** likely inscribed with the praenomen of Amenhotep III in the upper oval (Régen and Soukiassian 2008: 189).

Another *wedjat* eye scaraboid (**489**) from Gebel el-Zeit is inscribed with the name and title of Amenhotep III's chief wife, Tiye. The scaraboid is read as *Ḥm.t nṯr Tjj* 'God's Wife Tiye', a title also held by Ahmose-Nefertari, Hatshepsut, and Neferure (see above), three other powerful women of the Eighteenth Dynasty. Queen Tiye was of non-royal birth[229] but was a constant and influential presence during her husband's reign and can be seen attested to on multiple monuments (Bryan 2000: 267; Dodson and Hilton 2004: 145).

[229] Her parents, Yuya and Thuya, were not royalty. Tiye's parentage is explicitly stated on the so-called 'marriage' scarabs (see footnote below).

Both of the *wedjat* eye scaraboids, of Amenhotep III and Tiye, are of Jaeger's Type B (see above, Chapter 5.1.3.1), a type that was popular throughout the Eighteenth Dynasty with another example in the corpus bearing the name of Ahmose-Nefertari.

As this study focuses on the early Eighteenth Dynasty, there are relatively few seal amulets bearing the name of Amenhotep III and Tiye. This does not reflect the Eighteenth Dynasty as a whole as there are a great many seal amulets inscribed with their names, including the famous large commemorative 'lion hunt' and 'marriage' scarabs (Kozloff 1992; Berman 1992a: 41; 1992b).[230] Amenhotep III enjoyed a reign of relative peace and prosperity and constructed many royal monuments throughout Egypt and Nubia. Both he and Tiye were deified either during his reign or shortly after (Bryan 2000: 260).

5.2.3.9. Late Eighteenth Dynasty Royal Names

While this study focuses on the early Eighteenth Dynasty, a few late Eighteenth Dynasty royal seal amulets are in the corpus from Gebel el-Zeit, a site occupied until the early Ramesside Period.

Figure 5.70: Faience scarab **506** whose base is largely broken but possibly bears the praenomen of Ay (Régen and Soukiassian 2008: 185).

The penultimate ruler of the Eighteenth Dynasty, Ay, likely has his name inscribed on the base of one crude faience scarab (**506**). A large portion of the base has been broken off, rendering the hieroglyphs difficult to read, however the inscription has been read as *Ḥpr-ḫpr.w-[R']*, the praenomen of Ay. This reading is based upon what appears to be two *ḫpr* signs visible with plural strokes between them (fig. 5.70). Interestingly, the scarab bears Second Intermediate Period features, such as the 'Shesha' back and an open, B-Type head (see above Chapter 5.1.1.2.2 and 5.1.1.1.2). These features, which are not characteristic of the Eighteenth Dynasty, perhaps exhibit an attempt to

Figure 5.71: Scarab **435** that may be inscribed with the name of Ankhsenamun, but also may be an Amun epithet (Régen and Soukiassian 2008: 160).

[230] See Berman (1992b) for further information on the commemorative scarabs of Amenhotep III and Tiye.

link multiple periods of scarab manufacturing history. Considering Ay was not in line for the throne, and likely seized it through marrying Tutankhamun's widow, Ankhsenamun, it would be expected that Ay would rather have typical Eighteenth Dynasty scarab features to demonstrate his place within in the dynasty. However, since a thorough examination of late Eighteenth Dynasty scarabs was not a part of the present study, perhaps there is a visible trend and reasoning behind the peculiar features of scarab **506**.

The last possible royal seal amulet from the Eighteenth Dynasty is scarab **435** from Gebel el-Zeit bearing the inscription *Jmn ʿnḫ s* (fig. 5.71). This inscription may be either a cryptographic writing of Amun, or possibly the name of the queen Ankhsenamun (*ʿnḫ-s(n)-Jmn*) (Régen and Soukiassian 2008: 160).[231]

5.2.3.10. Other Royal Name Seal Amulets

As the contexts used in this study do not all strictly date to the Eighteenth Dynasty in order to demonstrate a link between Second Intermediate Period scarab studies, there are a couple of scarabs bearing names of non-Eighteenth Dynasty royals.[232]

Figure 5.72: Scarab **429** from Gebel el-Zeit inscribed with Auserre, the praenomen of the Hyksos king Apepi (Régen and Soukiassian 2008: 158).

One of the most well-known rulers of the Hyksos Fifteenth Dynasty, Auserre Apepi, also known as Apophis, may be attested to on a worn faience scarab from Gebel el-Zeit (**429**). The scarab appears to be inscribed with *ʿ3 wsr*, which may be an abbreviated spelling of Auserre (*ʿ3-wsr-Rʿ*). A sign that appears to be a flattened *r* or flipped *nb* may instead be a flattened sun disc, where the craftsperson

Figure 5.73: Base of scarab EXII.85/3 from Tell el-ʿAjjul that is inscribed with the praenomen of Apepi (UCL, Institute of Archaeology).

[231] See above, Chapter 5.2.3.9 for further discussion on the possible Ankhsenamun/Amun-Re scarab.
[232] Gebel el-Zeit was occupied from the late Middle Kingdom until the early Ramesside Period. Tombs CC 37 and CC 41 both date from the late Seventeenth Dynasty into the early Eighteenth.

ran out of space upon the scarab base. If it is a flattened *R'* then Auserre Apepi's name would be evident (figs 5.72 and 5.73). This scarab is likely contemporaneous with the reign of the Apepi due to the general agreement that it was highly unlikely that there was any posthumous production of royal-name Hyksos scarabs (Ward and Dever 1994: 10; Ryholt 1997: 3; Ben-Tor 2007:2).

One large faience scarab (**481**) from Gebel el-Zeit is inscribed with the name *Sw3ḏ-n-R'* (fig. 5.74). A faience sherd was also found at the site bearing this name (Régen and Soukiassian 2008: 67-68, 175). Scarab parallels of this name have been found at Lisht and Koptos in Egypt, and Faras and Mirgissa in Nubia, many of which dating to the New Kingdom. The Turin Canon lists two kings named Sewadjenre, both in the Seventeenth Dynasty and it is likely that these faience scarabs all belong to the king Sewadjenre Nebiryerau (Quirke 2004: 177).[233]

Figure 5.74: Scarab **481** inscribed with the name of Sewadjenre (Régen and Soukiassian 2008: 175).

A parallel of this scarab, UC 11608 of unknown provenance, demonstrates the similarities between the two scarabs in inscription, quality, material, and features; however, the *R'* on scarab **481** appears to be moulded as a square rather than a circle (fig. 5.75).

Figure 5.75: Base of scarab UC11608 also inscribed with the name Sewadjenre of unknown provenance (image courtesy of the Petrie Museum).

While Gebel el-Zeit was occupied until the reign of Ramesses II, there are no seal amulets bearing his name or any other Ramesside royal. There are, however, a few rings bearing the kings name; the only objects that attest to activity conducted at the site during his reign (Régen and Soukiassian 2008: 86-87; 127-128).

[233] As well as perhaps two seal impressions from Abydos that show the king's name in cartouche (Wegner 1998: 37; Quirke 2004: 177).

5.2.3.11. Private Name and Title Seal Amulets (Design Class 11B)

Private name and title scarabs are not seen until the late Middle Kingdom when they were very popular, so much so that they likely inspired the original *anra* scarabs (see above, Chapter 5.2.2.5). Quirke (2004: 171) estimated that over a thousand individuals are known from the late Middle Kingdom due to these seal amulets; however, few are known from the Second Intermediate Period and Eighteenth Dynasty. Quirke (2004: 174) saw the proliferation in seal amulets bearing the name of Amun and Amun-Re to have somewhat replaced the private name and title scarabs. Perhaps this coincides with the decline of the Middle Kingdom administrative sealing during the Thirteenth Dynasty (Ben-Tor 2007: 2-3; see Chapter 1.2 for further discussion).

Barring the heart scarabs, which often have the owner's name incised within the spell upon their base (see above Chapter 5.2.2.7), only six seal amulets in the corpus bear the name and/or title of a private, non-royal person. The decline in private name seal amulets in the early New Kingdom likely reflects the change in sealing practices and primary use of scarabs, cowroids, and scaraboids as amulets (Andrews 1994: 55; see Chapter 1.2 for more information on the use of seal amulets).

Three of these seal amulets are from the Tomb of Maket at Lahun, a tomb named based upon the reading of these scarabs and ring (Petrie 1891: 22). A silver ring (**791**), a silver scarab in a gold mount (**792**), and a gold scarab (**812**), all bear the inscription *nb.t pr M'k.t* 'the lady of the house, Maket'.[234]

Scarab **277** from the Tomb of Neferkhawet at el-Khokha bears the name and titles of the 'King's Acquaintance Montuwoser'. This name, invoking the war god Montu, was most popular in the Middle Kingdom. As the body features of this scarab (A5-II-d6) are typically early Eighteenth Dynasty, perhaps this name experienced a resurgence during the archaising trends of the period. On the other hand, this scarab, like a number of the other seal amulets in the Tomb of Neferkhawet, may be heirlooms.

Scarab **548** from Gebel el-Zeit bears the name of an unknown person *Rnsy*. A final private name seal amulet is the scarab ring (**351**) of Nakht from Tomb CC 41 at el-Khokha. The full inscription is *m3' ḫrw Nḫ.t* 'Nakht, justified'. This scarab was found in Pit 3, in which a coffin and heart scarab, both inscribed with the name of Nakht, were also found.

5.3. Regional Types

As Ward (1994: 194) observed, "the numerous varieties of heads, backs, sides, and designs used at [any] time permit over one hundred thousand typological combinations". Therefore, it can often pose a challenge to determine chronological and regional patterns in the features of the scarabs, cowroids, and scaraboids. The following is a brief summation of the proposed 'regional types' for the early

[234] For more information about this tomb, see Chapter 3.2.4.

Eighteenth Dynasty[235]; that is a collection of features that appear to be seen earlier and more often in one region or site than elsewhere in Egypt or further afield.

Most of the seal amulets in the corpus appear to have been produced in Upper Egypt, specifically in the Theban region. The first, and most prominent assemblage of seal amulets, are the steatite scarabs, cowroids, and scaraboids excavated in the foundation deposits of *Djeser-djeseru*, the mortuary temple of Queen Hatshepsut. The scarabs in these deposits nearly all feature A5 or A3 lunate heads (93%), Type I or II backs (with less than half of the lined backs displaying humeral callosities), and d6 legs (97%). These scarabs largely display the names and titles of Hatshepsut (over 50% of the foundation deposit seal amulets), as well as those of her co-regent Thutmose III and her daughter Neferure.

Also characteristic of the foundation deposit seal amulet assemblage are steatite cowroids of Type III and Type IV backs with zero examples of Type I cowroids (the type that was the most popular in the early Eighteenth Dynasty as a whole). Furthermore, the only three cowroids in the corpus with Type IV backs, a rare type, were discovered in the foundation deposits of *Djeser-djeseru*.

Characteristic of the Theban area in general are also steatite scarabs with lunate heads (particularly A3 and A5), lined backs, and d5 or d6 legs. The uniformity of features is far less pronounced in the tombs of Thebes than of the scarabs found within the foundation deposits, and this likely alludes to seal amulets chosen by the tomb occupants from a variety of workshops or craftspeople. Some distinctly Theban base motifs include design class 9J of the *bulti* fish and lotus buds, 9H3 of the falcon, flail, and uraeus, and 11C1 of *Jmn*/*Jmn-R‘*, specifically those depicting *Jmn-R‘* framed by a single lotus bud and a *nb* sign.

Humeral callosities appear to be a feature first popularised in the north in the mid-Eighteenth Dynasty as two-thirds of the Tomb of Maket scarabs with lined backs had their shoulders marked out with the small, V-shaped engraving. In contrast, fewer scarabs in Thebes displayed this distinctly Eighteenth Dynasty feature. The earlier northern tombs seldomly bear humeral callosities; in fact, Tombs 26 and 27 of Gurob that date to the beginning of the dynasty do not have a single example.

The northern scarabs also display a wider variety in features than the Theban scarabs. This is especially seen on the leg types of the Tomb of Maket at Lahun with leg types b and c on nine of the scarabs, types that were only found in this tomb.[236] The scarabs from Gurob and Sedment do not have the same body feature diversity as those from the Tomb of Maket; however, they do bear a wide variety of base designs.

[235] These types will be discussed further in the following chapter (6.2), which will examine the typological evidence for specific seal amulet workshops in the early Eighteenth Dynasty.
[236] There are just two possible examples of b or c legs from Gebel el-Zeit; however, due to the wear on these scarabs, they may actually be another type.

While the Eighteenth Dynasty ruled from Thebes, royal name scarabs appear to have been evenly distributed throughout Egypt. Many examples of seal amulets with the praenomen of Thutmose III were found in the Tomb of Maket, for instance. In contrast, the seal amulets of Hatshepsut appear to have clustered in the Theban region, with only three of the total 131 seal amulets bearing the queen's name and/or titles found outside of the foundation deposits in Theban tombs.[237]

The only recognizable hard stone regional type is that of design class 1B2 of the 'X' or star motif. Boschloos (2015) has demonstrated that these cornelian or red jasper scarabs originated in Middle Egypt but have been found in contexts throughout Egypt, the Near East, and even on Crete.

The scarabs and seal amulets excavated at Gebel el-Zeit display a mixture of regional and chronological types. The mining site has scarabs from both Upper and Lower Egypt dating to the Second Intermediate Period and then predominantly Theban seal amulets for the Eighteenth Dynasty, including a number of royal name seal amulets. Specific to the site, are a number of Hathor-related seal amulets, such as cat scaraboids and seal amulets with a Hathoric sistrum engraved on the base.

Furthermore, *wedjat* eye scaraboids were found in their greatest numbers at Gebel el-Zeit with eight of the ten examples from the corpus. The other two were found in the foundation deposits at Deir el-Bahri. Since Gebel el-Zeit was unlikely a permanent residence, and rather only had an itinerant settlement for the mining expeditions, it is likely that these scaraboids originate from Thebes and were transported as votive offerings with the mining crew whom set off from the Theban region.

In conclusion, the various regional and site-specific features of the scarabs and cowroids as well as the types of the different scaraboids can be analysed to determine where certain seal amulet types (as in a combination of features and base design) originated. With the data presented in this chapter, specific seal amulet workshops[238] can be proposed that are believed to have been based upon a specific site or in a region dating to the early Eighteenth Dynasty (see Chapter 6.2). Once these workshops are proposed, various questions regarding the social, political, and religious atmosphere of the Eighteenth Dynasty can be addressed (Chapter 7).

[237] One known example outside the study corpus is from Tombos in Nubia (Smith 2017: 622).
[238] See Chapter 6 for a more detailed discussion on workshops (based upon both archaeological and typological evidence) in ancient Egypt and specifically on scarab workshops.

Chapter Six:
SEAL AMULET PRODUCTION AND WORKSHOPS IN THE EARLY EIGHTEENTH DYNASTY

The aim of the present study is to examine scarabs and seal amulets from the early Eighteenth Dynasty in order to analyse their production techniques (Chapter 4) and patterns in surface characteristics (Chapter 5) in order to try and identify production areas and specific 'typological' seal amulet workshops themselves. To provide context for this study of seal amulet workshops, general studies and research on ancient Egyptian workshops will be addressed and critiqued to demonstrate the ideal method for identifying the seal amulet workshops of the early Eighteenth Dynasty. The study of craft production is an important avenue of archaeological research because it can provide 'insights into economic organization, social relations, and political power' (Di Paolo 2013: 112). These insights include information about formal state-controlled workshops that may be working in tandem with private, informal workshops. These workshops can shed light on social hierarchy in craftspeople, the expense of goods, the role of the state in craft production and distribution of goods, and more. The socio-political and religious implications of these workshops will be discussed in Chapter Seven.

The seal amulet workshops of the early Eighteenth Dynasty are outlined below. These workshops were identified based upon the analysis of the materials and surface characteristics as outlined in Chapters Four and Five. This chapter also contains a synthesis of the evidence for both the 'typological' seal amulet workshops indicated from the dataset, as well as the 'material' seal amulet workshop evidence found in the archaeological record from throughout ancient Egyptian history. Finally, a few case studies will be discussed in which there is evidence for both a 'typological' and a 'material' seal amulet workshop at a single site.

6.1. Workshops in Ancient Egypt

In recent years, there have been many studies addressing workshops and production in Egypt and the ancient world at large (for example, Miniaci *et al*. 2018; Hodgkinson 2018; Hodgkinson and Tvetmarken *forthcoming*). It is therefore integral to define what 'workshop' means for the present study. Di Paolo (2013: 125) defined a workshop as a 'place of the specialised production with many artisans and a range of skills'. However, this term has been used far more broadly in Egyptology to cover a wide-variety of organisations of craft production. 'Workshop' has been used to describe the archaeological evidence of production at a site (henceforth called a 'material workshop') as well as a typological grouping of artefacts that are believed to have been made by the same craftsperson or people (henceforth called a 'typological workshop'). Alongside the studies of 'material' and

'typological' workshops, much research has gone into the distinction between state-controlled workshops and private, informal workshops (Cooney 2006; 2007; Stevens and Eccleston 2007).

Past Egyptologists and anthropologists, such as Polanyi (*et al*. 1957), Janssen (1975: 137-139), and more modernly Gutgesell (2002: 534-536), believed that the ancient Egyptian economy was solely redistributive and that the ancient Egyptians were purely focused on sustenance, rather than profit. Helck (1960-1969; 1975) also believed that the ancient Egyptian economy was primarily redistributive but also noted that some private individuals engaged in marketplace activities from the First Intermediate Period onwards (but most intensively in the Intermediate Periods), in order to separate themselves from an all-encompassing, controlling state. More recent studies regarding ancient Egypt's economy, such as that of Kemp (2006: 302-355), noted that Egypt's economy, just like all economies, was a compromise between the government and the individual, state redistribution and the private marketplace.

Many scholars who considered Egypt to have been a strictly redistributive economy then believed that all craft production would have been either state/temple organised or merely domestic production for own consumption. In tomb scenes from the Old Kingdom onward, workshops were often depicted under the control of state officials and texts refer to state-controlled storage and production spaces (*per-shena*). Furthermore, evidence of production, particularly of ceramics, dating to the New Kingdom can frequently be found scattered around temple complexes at sites, such as at Karnak and Qurna (Jacquet 1983: 84-92; Jaritz *et al*. 2001: 148-150; Stevens and Eccleston 2007: 152-153).

While Di Paolo (2013: 114-115) and others only noted a distinction between state/temple-run specialised workshops versus domestic workshops producing for household consumption, there is plentiful evidence for private or informal workshops creating goods for public consumption that are separate from those mandated by the state. Much of this data comes from the Ramesside Theban site of Deir el-Medina. Deir el-Medina was a town populated largely by the craftspeople and artisans who built and decorated the royal tombs of the Valley of the Kings. In studying the hundreds of ostraca excavated from the town, Cooney (2006; 2007) observed that many of the texts described workshop records, receipts, letters, official records, and legal texts documenting the private production of funerary goods. These texts demonstrated that official craftspeople employed to carve and decorate the royal tombs would utilise their down time to work informally in the private funerary goods market. These artisans used their acquired skills, access to raw materials, own tools, and connections with other craftspeople to create private commissions for non-royal persons in order to supplement their government issued rations (Cooney 2006: 49-50). In fact, Cooney posited that the private market was so lucrative that the craftspeople selling their products within it would receive a larger pay for their supposed 'side work' than they received in their official rations. She suggested that many of the craftspeople would pool their skills together in order to finish a project, such as a coffin, rather than one artisan creating an object from start to finish alone. While these 'informal workshops' would not

have had the same rigid hierarchy as the official state workshops, Cooney did note a loose hierarchy in the private workshops with it appearing that the highest ranked Deir el-Medina officials would generally take a leading role in the informal workshop (Cooney 2006: 49). Furthermore, much of the archaeological evidence for workshops at Amarna appear to not be strictly official or domestic and likely were used for a combination of purposes (Stevens and Eccleston 2007: 153; see below for further information about the workshops of Amarna).

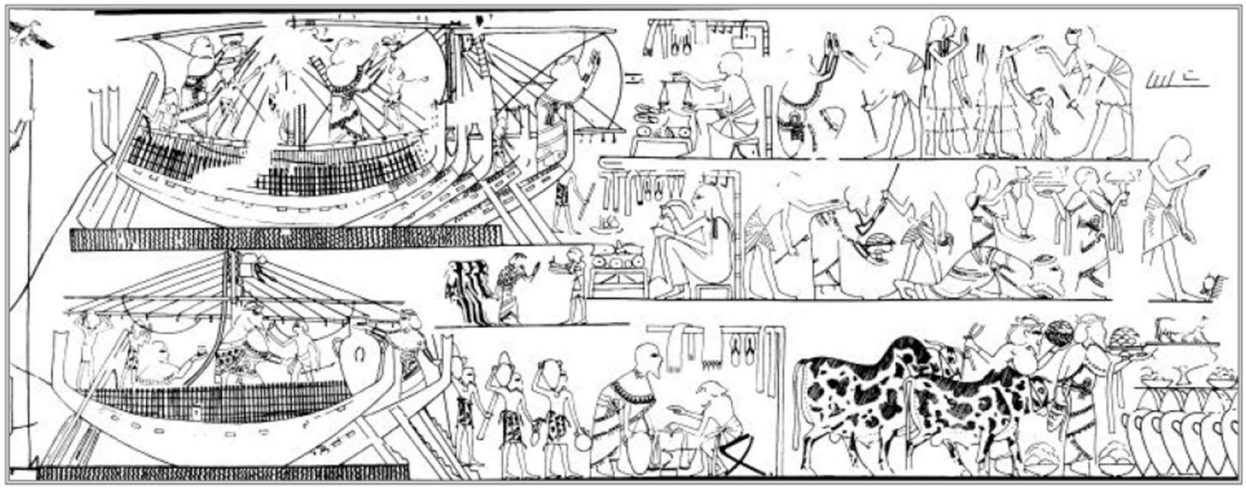

Figure 6.1: Wall painting from Theban Tomb 162 dating to the Eighteenth Dynasty depicting merchant ships from the Levant arriving and trading at an Egyptian market presumably at the riverside (Haring 2009: fig. 2).

There is also some evidence for the selling of goods at a marketplace. Commissioned and perhaps even uncommissioned goods would be sold down by the 'riverbank' (*mrj.t*), which Egyptologists have translated to often mean 'marketplace'[239]. This marketplace activity can be seen in texts and tombs scenes, such as the scene from Theban Tomb 162 dating to the Eighteenth Dynasty, which shows Levantine merchant ships arriving at an Egyptian market (fig. 6.1). The ancient Egyptians, both male and female, traded labour and goods for commodities at the market. Although there was no cash or currency in Egypt until the arrival of the Ptolemaic rulers, commodities did have specific set values, and 'payment' was often received in the form of linen textiles, grain, copper, and silver (Cooney 2007: 12-13; Haring 2009: 10; see Černý 1954 for a full breakdown of the prices of goods during the Ramesside Period, according to the Deir el-Medina texts).

Some of the best evidence for material workshops is from the Eighteenth Dynasty city of Amarna. Of particular relevance to the present study are the publications regarding the faience workshops at Amarna (Boyce 1995; Nicholson 2007; Stevens and Eccleston 2007: 149-152; Shaw 2012: 127-150; Hodgkinson 2015). These studies have analysed evidence from various workshops at Amarna and have determined that a wide variety of types of material workshops were present at the site and were

[239] Multiple Deir el-Medina ostraca (such as, O. LACMA M. 80.203.193) state that certain artefacts were intended for 'the riverbank'. This, with multiple texts and tomb scenes depicting the riverbank as a place of trade and market activity (see fig. 6.1, and also the market scenes from the tomb of Niankhkhnum and Khnumhotep at Saqqara dating to the Fifth Dynasty), has led Egyptologists to frequently translate *mrj.t* as 'marketplace' (Cooney 2006: 49; Haring 2009: 6-10). Furthermore, there is evidence of marketplace activities within towns (Kemp 1972: 674; Cooney 2006: 49-50, fn. 45; Shaw 2012: 139).

likely in use at the same times. Some of the workshops, such as the vitreous materials workshops at house P46.33 (Boyce 1995; Shaw 2012: 142-148) and O45.1 (Nicholson 2007), focused on the production of objects of only one type of material, whereas others, including the Bead Workshop M50.14-.16 (Hodgkinson 2015), workshop complex N50.23 (Stevens and Eccleston 2007: 140-152), and the large workshop in gridsquare O49 (Shaw 2012: 142-148), have evidence of the manufacture of multiple different industries and/or materials. At complex N50.23, evidence of kilns, glass rods, unfinished and misshapen glass objects, ceramic moulds for faience amulets, faience manufacturing errors, and possible crucible fragments were found together. Stevens and Eccleston (2007: 150-151) noted that the assemblage at this workshop fits well with the contemporary representations of craft production shown on tomb walls.[240] In a scene from the Eighteenth Dynasty Theban tomb of the vizier Rekhmire (TT 100) craftspeople are shown completing a wide variety of tasks, including drilling stone beads (see Chapter 4.1.3 for further information about this practice), processing leather hides, stringing bead collars, drilling the cores out of stone vessels, and assembling leather sandals (fig. 6.2; Davies 1943: pl. LIV). There is no way of knowing if the artist was aiming to show these activities together as if they all took place in one workshop area, or if they were only intending to show a wide variety of craft production. However, this scene could possibly echo the multi-use workshops at Amarna, including that at O49, which has evidence of faience production, leather working, spinning and weaving, sculpting, and metal working (Shaw 2012: 145-146). Additionally, the stela of Iritsen, dating to the early Middle Kingdom, describes Iritsen as the 'overseer of artisans/

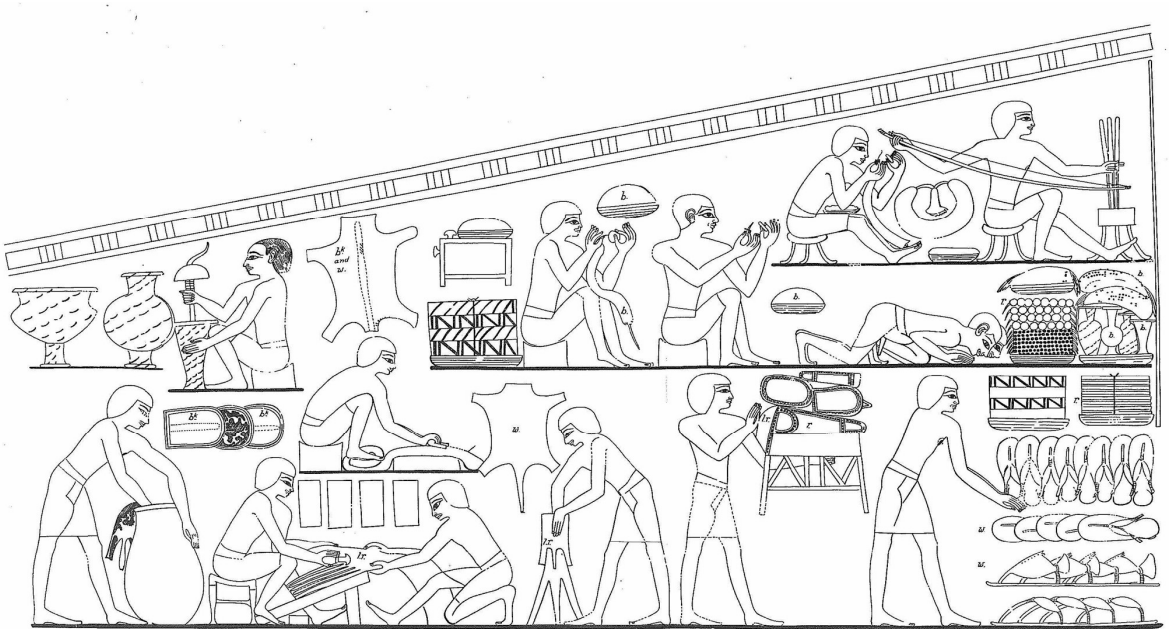

Figure 6.2: Wall painting from the Tomb of Rekhmire (south wall) depicting craftspeople in a wide variety of tasks (Davies 1943: pl LIV).

[240] It is noted that artistic representations of activities, whether they be tomb paintings or wooden models, are artistic renditions of life and cannot be used as definitive proof of how an activity took place in ancient Egypt. However, they can be used, with caution, to propose or bolster an argument regarding methods of craft production and how workshops were organised.

craftsmen (and) draftsmen' but also states that he was tasked with supervising the use of precious materials, including gold, silver, and ivory (Oppenheim 2015: 24; Stauder 2018). Perhaps then not only workshops were multi-functional, some craftspeople were as well.

In order to suggest a 'typological' workshop for a group of artefacts, some expertise on the subject matter is required. That is to say that a solid knowledge of the particular type of artefact is necessary to be able to pick out patterns of stylistic features and to know how often and where artefacts with similar features are found. 'Typological' workshops have been suggested for many different types of artefacts. For example, Freed (1984; 1996) has suggested various workshops for stela production in the Middle Kingdom. Her definition of a stela workshop is 'three or more stelae sharing distinctive aspects of composition or style which collectively set them apart from others' (Freed 1996: 298). In her 1996 study of workshops in the early Twelfth Dynasty, only a maximum of 41% of the stelae that she placed in her ten workshops had an archaeological provenance; in fact, many of the stela that she noted as having archaeological provenance are merely assumed to be from Abydos due to previous publications on the stelae or due to their being in a private collection that likely originated at Abydos (Freed 1996: 299). Other scholars, including Ilin-Tomich (2011), have applied Freed's model to their own studies of Middle Kingdom stelae. Ilin-Tomich used five unprovenanced stelae to propose a workshop based in Saqqara or Lisht dating to the reign of Amenemhat II. The conclusions of Freed and Ilin-Tomich may be correct; however, without archaeological provenance of the stela, or of any stelae belonging to the same 'workshop' only very hypothetical conclusions can ever be posited regarding the location of the workshops.[241] Ilin-Tomich's later (2017) study of Middle Kingdom stelae focused on those with secure archaeological provenance.

Another 'typological' workshop study in which the lack of archaeological provenance proved problematic was that of Collon (1975; 1986; 2001) and her proposed 'Green Jasper Seal Workshop' at Byblos dating to the early second millennium BCE. Collon proposed that twenty-five cylinder seals found in the Levant, Cyprus, Crete, and Carthage were produced at the same workshop at Byblos. She suggested Byblos as the site of production due to the seals' Egyptianising motifs and frequent use of green jasper (a material readily available in Egypt but not the Near East, see Chapter 4.1.1 for further detail) in the manufacture of the cylinder seals. Boschloos (2015) disagreed with Collon's suggested production site as she observed that not a single cylinder seal in Collon's proposed 'Green Jasper Seal Workshop' has been excavated at Byblos. By using the archaeological data present at Byblos alongside the motifs from cylinder seals throughout the Near East and Aegean,

[241] It must be acknowledged that unfortunately many stelae do not have secure archaeological provenance due to their popularity amongst private collectors past and present (discussions in Simpson 1974: 5 and Ilin-Tomich 2017: xiv-xv). The present author is aware that only using artefacts with secure archaeological provenance is often not possible and that these studies should still be conducted. While workshop provenance can only ever be hypothesised for artefacts without a known findspot, it is still beneficial to posit production sites.

Boschloos instead suggested that Byblos was in fact producing cylinder seals but during the mid-second millennium BCE rather than before.

Boschloos (2012b) again used the archaeological provenance of seal amulets (this time scarabs) to suggest a workshop, or workshops, of red jasper and cornelian scarabs with a particular cross design carved onto their bases (see Chapter 5.2.2.4 and 6.2.2.1). By identifying a homogenous group of scarabs based upon their stylistic features, and analysing the archaeological provenance of each known scarab of that type, Boschloos was able to posit the regional location of this workshop. This demonstrates that the distribution of the objects can indicate where an object type was found earliest, as well as in the highest quantities.

6.2. Seal Amulet Workshops in the Early Eighteenth Dynasty

Three early Eighteenth Dynasty seal amulet workshops have been proposed based on the combination of specific features, and thus are 'typological' workshops. Unfortunately, there is limited archaeological evidence of seal amulet production, or 'material' workshops, in the Eighteenth Dynasty. There is archaeological evidence for 'material' seal amulet workshops from the late Eighteenth Dynasty, primarily at Amarna and likely at Malkata, and the New Kingdom in general, such as the unfinished steatite scarabs from Memphis (Chapter 6.3.2); however, little concrete evidence has been found dating to the early Eighteenth Dynasty. Nevertheless, the typological evidence, that is the usage and frequency of a combination of features of a seal amulet, can allow for the reconstruction of 'typological' seal amulet workshops for this period (Mlinar 2004; Boschloos 2015).

6.2.1. Theban Workshops

Before the reign of Kamose, there is little to no evidence of scarab or seal amulet production in Thebes during the Second Intermediate Period. In contrast, an active scarab workshop was operating in the northeastern Delta at Tell el-Dab'a, the Hyksos capital, which probably produced nearly all of the Egyptian made scarabs during the period (Mlinar 2004; Ben-Tor 2015: 141-142). This changed dramatically with the expulsion of the Hyksos and the re-establishment of the capital city at Thebes at the start of the Eighteenth Dynasty and seal amulet workshops are posited from the site dating to this period. During the early Eighteenth Dynasty, there is demonstrable typological evidence of at least two seal amulet workshops in Thebes.

6.2.1.1. The 'Hatshepsut Workshop'

The most distinctive seal amulet workshop in Thebes during the early Eighteenth Dynasty, based on the presented evidence, is a workshop that was active during the reign of Hatshepsut. This workshop was predominantly responsible for the scarabs and seal amulets found in the foundation deposits of Hatshepsut's mortuary temple, *Djeser-djeseru*.

The primary output of this workshop was steatite scarabs, coated in a bright blue glaze, with very specific features (fig. 6.3). The heads were all of the lunate variety; A5 heads, with a double line marking the eyes, were specifically used, although just over 30% of the scarabs had A3 heads with only a single line indicating the eyes of the beetle. The backs were lined with either a single or double line separating the elytra; however, less than half of the scarabs had their shoulders marked with humeral callosities. The legs were nearly all of the d6 type (chip carved and notched), with 97% of the foundation deposit scarabs carved with these legs.

Figure 6.3: Examples of scarabs (**080**, **210**, **185**, **153**) from the 'Hatshepsut Workshop' in Thebes, all found within the foundation deposits at Deir el-Bahri (MMA 27.3.243; MMA 27.3.345; MMA 27.3.304; MMA 27.3.322).

Other steatite seal amulets created in the 'Hatshepsut Workshop', that were also found in the foundation deposits, include Type III and Type IV cowroids. Most distinctively, the only three Type IV (decorated back) cowroids in the entire corpus were found in the foundation deposits with two of the cowroids bearing nearly identical backs (see fig. 5.22). Cowroids **221** and **233** are carved to depict a falcon, wearing the *atef* crown with outstretched wings and talons clutching *shen* rings (see Chapter 5.1.2.4). Due to the great similarities in these backs, it is highly likely that they were carved by the same craftsperson in the 'Hatshepsut Workshop'. In contrast, the base designs differ from each other in both style and quality, and perhaps can be explained as one skilled artisan carving the intricate backs, while other craftspeople carved the base motifs. While there is no archaeological or textual

evidence for the organisation of a seal amulet workshop, it is possible that a number of artisans skilled at carving seal amulets were based in the same workshop.

On the other hand, two nearly identical *wedjat* eye scaraboids also belong to the 'Hatshepsut Workshop' (see fig. 5.23). Scaraboids **224** and **225**, both found in foundation deposit 7 (G), were of Jaeger's (1982: 175) Type B (raised relief on an oval base) and demonstrate the same style of carving as well as the depth of the relief. Furthermore, both scaraboids are engraved with 'Maatkare beloved of Amun' upon their bases. The only difference between the two is the placement of the *mrj* hieroglyph, which could speculatively be explained as an accident that was remedied on the second scaraboid.

Many of the scarabs (and other seal amulets) manufactured in the 'Hatshepsut Workshop' were engraved with the names and titles of Queen Hatshepsut and her close family. In fact, roughly 50% of the seal amulets from the foundation deposits were inscribed with the praenomen or nomen of the queen and a variety of titles.

Unlike the seal amulets in the corpus that were excavated in tombs or in the sanctuary of Gebel el-Zeit, the foundation deposit steatite seal amulets display no evidence of wear or weathering in the bodies or glaze and are in excellent condition (Hayes 1959: 88). This is probably because the seal amulets were selected directly from a workshop with the sole purpose of depositing them in pits beneath the foundation of Hatshepsut's temple during the *pḏ šs* 'stretching of the cord' ceremony (Ben-Tor 2015; Hayes 1959: 88).[242] If these seal amulets were selected just prior to the sealing of the foundation deposits, it is interesting that they bear the names and titles of Hatshepsut from both her time as the chief wife of Thutmose II and from her later reign as the sole ruler of Egypt. As Hatshepsut was a woman, she was not naturally in line for the throne. Present in her name and title seal amulets are many examples of her birth name (nomen) and her pre-kingship titles, such as *ḥm.t nṯr*, alongside those of her throne name (praenomen) and typical royal titles, including *nsw.t bjtj*.[243] These seal amulets were perhaps commissioned with both the pre- and post-kingship titles to clearly indicate her royal lineage and right to the throne (Ben-Tor 2015).

On the other hand, if these seal amulets were specifically made for the foundation deposits, it is peculiar that not one example is engraved with the name of the temple, *Djeser-djeseru*. Hayes (1959: 85-86) observed that the other engraved artefacts discovered in the foundation deposits were frequently inscribed with the phrase 'beloved of Amun in *Djeser-djeseru*'. If the seal amulets were not created specifically for the foundation deposits, perhaps they were a case of 'new old stock' at the workshop and the official in charge of selecting objects for the foundation deposits intentionally

[242] In contrast, most of the other seal amulets in the corpus display typical signs of wear or breakage as they were generally worn as amulets during the life of the owner before they were sealed within tombs or votive deposits. See Chapter 1.2 for further information on the purpose of these 'seal' amulets.
[243] See Chapter 5.2.3.5 for further information about the name and title seal amulets of Hatshepsut.

chose a cross section of seal amulets bearing both the birth and kingly names and titles to display the continuity of the Thutmoside line (Roth 2005b: 281). However, this scenario also poses a problem as the high number of seal amulets inscribed with Hatshepsut's birth name and titles does not accord with the lack of contemporary evidence from Thutmose II's reign for Hatshepsut's status and power (Dorman 2005d: 87). In fact, she is shown behind Queen Ahmose on Berlin stela 15699, which further suggests that Hatshepsut did not wield any extraordinary power until after her husband's death (Wildung 1974: 255-257, pl. 34).[244] This could be explained as a bias in preservation, in that the high number of queenly seal amulets is only in the archaeological record due to the foundation deposits. However, if so many were made in a workshop for purposes other than the foundation deposits, it does not explain why so few were found in other contemporary contexts.

Nevertheless, the foundation deposit seal amulets provide concrete evidence for a distinct workshop operating in Thebes during the reign of Hatshepsut. Very few of these seal amulets have been discovered at other sites, and only three clear examples from this workshop have been found outside of the foundation deposits. Scarabs **236**, **237**, and **315**, all from Theban tombs, also have the A5/II/d6 features and are inscribed with *ḥm.t nṯr Ḥ3.t-šps.wt*. It is possible that the lack of seal amulets from the 'Hatshepsut Workshop' found elsewhere in Egypt is due to the partial *damnatio memoraie* inflicted upon the queen after her death (Dorman 2005e: 267; Roth 2005b).[245] This is not to say that seal amulets bearing the name of Hatshepsut would have been removed from sealed tombs, but rather that after the *damnatio memoraie* was inflicted, the amuletic value[246] of a seal amulet inscribed with the queen's name was nullified and perhaps the seal amulets were not kept or taken into the tomb with their original owners.

Figure 6.4: Scarab from Eighteenth Dynasty burial at the Lower Nubian site of Tombos inscribed with the name of Hatshepsut (photograph courtesy of Stuart Tyson Smith).

A single broken scarab bearing the inscription of *M3ʿt-k3[-Rʿ] ḫnm Jmn* with an A3 head, Type I back, and d6 legs was found in the tomb of an elderly woman at the Lower Nubian site of Tombos (Smith and Buzon 2017: 622; fig. 6.4). Hatshepsut's viceroy Amenemnekhu left a number of inscriptions at sites in Lower Nubia, including one at Tombos in year 20 of her reign (Davies 53-54).

[244] Dorman (2005d: fn. 2) noted that the authenticity of this stela has been challenged; however, this does not change the fact that there is no contemporary evidence of Hatshepsut's power and status during Thutmose II's reign beyond that of a chief queen.
[245] The *damnatio memoraie* inflicted upon Hatshepsut was not a complete erasure of the queen but rather just of the depictions and inscriptions of her as a king. Her queenly depictions were left untouched (Dorman 2005e: 267).
[246] See the Chapter 1.2 for further discussion on the amuletic value of seal amulets bearing a royal name.

It is therefore likely that this scarab was made in the same royal workshop as those made for the foundation deposits and perhaps traveled to Nubia along with her officials.

6.2.1.2. The 'el-Khokha Faience Workshop'

Another, much smaller, Theban workshop can be seen in a number of the scarabs of the Tomb of Neferkhawet at el-Khokha. Six of the scarabs from this tomb (**284**-**289**) all bear a unique combination of features: the A4 head (kidney bean-shaped with a single horn), 'Shesha' back, and d5 legs (fig. 6.5). The clypei are all frilled except for scarab **285**, in which the clypeus is broken and may have been frilled or perhaps left smooth. Furthermore, all of these scarabs were made of faience. The scarabs are all roughly the same size at 16 to 17 mm in length, 11 to 12 mm in width, and 7 to 8 mm in depth. Although it would have been possible to mass-produce faience scarabs, the backs and profiles all appear to have subtle difference which makes it unlikely that they were made using the same clay moulds.

All of the bases of these scarabs bear amuletic or royal motifs. Most notably, scarab **284** bears the praenomen of Thutmose I (see Chapter 5.2.3.3), which dates the workshop series to the early Eighteenth Dynasty, circa 1504 to 1492 BCE. The base of scarab **289** depicts the god Ḥeḥ, kneeling and grasping a notched palm branch in each of his hands. Ḥeḥ was one of the earliest anthropomorphic deities depicted on scarabs and was already seen on examples from the Twelfth Dynasty (Keel 1995: 213). His amuletic value provided wearers with 'millions of years' of life (Pinch 1994: 113). The deity can also be seen on other seal amulets in the corpus (Design Class 10C1a), including scarab **794** from the Tomb of Maket. The other base designs include ankhs, *wadj*-scepters, red crowns, and the *sema-tawy* royal motif.

At least three other scarabs from this workshop can be seen in the corpus. There are two examples from Gebel el-Zeit (**688**, **734**) and one from the Tomb of Hatnefer and Ramose (**240**). All three scarabs were made of faience, and bear the A4 heads, 'Shesha' backs, and d5 legs. Scarab **240** bears a design featuring red crowns, whereas the Gebel el-Zeit examples both depict central amuletic symbols (such as the ankh and *djed*-pillar) surrounded by flattened spiral borders (fig. 6.5). Interestingly, this motif, particularly that on scarab **734**, is echoed on three other seal amulets from Gebel el-Zeit (**562**, **619**, **658**); however, they were all made of steatite (fig. 6.6). Furthermore, seal amulet **658** is a cowroid. It is possible that these seal amulets also originated from the el-

Figure 6.5: Scarabs (left to right, top to bottom **284**-**289** from the Tomb of Neferkhawet, **240** from the Tomb of Hatnefer and Ramose, and **688** and **734** from Gebel el-Zeit) from the 'el-Khokha Faience Workshop' (MMA 35.3.80-.85; MMA 36.3.26, Régen and Soukiassian 2008: fig. 331, 377)

Khokha faience scarab workshop; however, the body features differ from the el-Khokha workshop examples.

The Tomb of Neferkhawet examples of these faience scarabs are the earliest securely dated of the workshop as the nearby Tomb of Hatnefer and Ramose dates to the reign of Hatshepsut. Therefore,

it is highly likely that these scarabs originated in Thebes, likely either close to the el-Khokha cemetery or to where the family of Neferkhawet lived.

Figure 6.6: Steatite seal amulets (**562**, **619**, and **658**) from Gebel el-Zeit that display a similar motif to faience scarab **734** (bottom right) from the el-Khokha workshop (Régen and Soukiassian 2008: 205, 262, 301, 377).

6.2.1.3. Other Theban Workshop(s)

In general, Theban style scarabs are seen to display the same body features (lunate head, lined backs, d type legs) as the ones manufactured in the 'Hatshepsut Workshop'; however, far more variation in the selection of features was allowed in comparison to the strict A5/II/d6-type scarabs discovered in the foundation deposits of *Djeser-djeseru*. A wider variety of base iconography was also seen in the other workshop(s) of Thebes with many of the notable Eighteenth Dynasty motifs appearing to have originated in workshops of the capital city.[247]

One of the most distinct and notable additions to the Eighteenth Dynasty base design repertoire is design class 11C1, those inscribed with *Jmn* or *Jmn-R'*. Seal amulets bearing the name of Amun or Amun-Re are found throughout Egypt starting in the Eighteenth Dynasty, but in the largest quantities were in the Theban region. Furthermore, the earliest concrete evidence of seal amulets bearing the name of Amun-Re (a syncretism of the creator god Amun and the sun god Re) is found in the foundation deposit assemblages. One particular *Jmn-R'* motif that is seen throughout Thebes is that of the deity's name with a *nb* sign below and a lotus bud framing the upper left (see fig. 5.37). A solitary example (**790**) was discovered in the Tomb of Maket at Lahun, which was sealed during the reign of Thutmose III, after the death of Hatshepsut.

Another Theban base design was design class 9J of the *bulti* fish and lotus buds (see fig. 5.38 and 5.27). This design is also almost solely seen in Thebes in the early Eighteenth Dynasty with eight

[247] See Chapter 5.2.2 for further information about the notable base designs of this period.

examples from the foundation deposits and Gebel el-Zeit (whose mining expeditions likely originated in the Theban region). A further example was excavated in the Fayum region at Sedment (Petrie and Brunton 1924b: pl. LVII, no. 19) and another further abroad in Palestine at Tell el-'Ajjul (Petrie 1932a: pl. VII, no. 55). Petrie (1894: 29, pl. XV, nos. 149-151) also discovered a few examples at Amarna, a city that dates to the late Eighteenth Dynasty.

Design Class 9H3 of a falcon, facing right, with a flail behind it and a uraeus in its claws is also believed to be a style originating in the Theban region; however, the majority of its examples (all bar one example each from el-Khokha, **295**, and Sedment, **828**) were discovered at Gebel el-Zeit (see fig. 5.40). Perhaps the presence of distinctive base motifs found largely at Gebel el-Zeit, but also occasionally in other contexts, points to a Theban workshop that created seal amulets that would also serve as votive offerings for the itinerant miners.

6.2.2. Memphite/Fayum Workshops

Throughout ancient Egyptian history, the northern city of Memphis had been a hub of craftsmanship and artisans. So much so that the patron deity of the city was Ptah, the god of arts and crafts (Jeffreys 2001; Baines 2002: 134). The city also bears a tradition of faience workshops. This is seen especially in the Roman period, but also in pharaonic times (Petrie 1909; Nicholson 2013). Furthermore, Petrie (1909: 11, plate XXVIII figs 13, 14) discovered many unfinished steatite scarabs at the site, the presence of which is a definite sign of steatite scarab manufacture, as they were never intentionally deposited unfinished.[248] Unfortunately the exact date of this scarab workshop is not known, although it likely dates to some point in the New Kingdom.

6.2.2.1. The 'Cornelian/Red Jasper Workshop'

A distinctive hard stone scarab workshop from the Fayum region created scarabs of cornelian and red jasper engraved with a crude 'X' or star base design (Design Class 1B2, see fig. 5.42). These scarabs were carved with lunate, A-type heads and a double line dividing the elytra (type II back). This workshop was identified by Boschloos (2012b) who noted its origin in Middle Egypt, particularly the Fayum region in the early Eighteenth Dynasty.

This accords with the study as one example was found at Tomb 27 at Gurob (**854**), a further two examples from the Tomb of Maket at Lahun (**805**, **808**), and multiple examples were excavated from tombs at Sedment, including scarabs **839** to **841** from Tomb 1723 and scarab **823** from Tomb 1728. Two further Sedment examples were excavated in smaller tomb groups not included in the corpus

[248] For further information on the importance of unfinished steatite scarabs in identifying areas of scarab manufacture, see Chapter 6.3.2.

(Petrie and Brunton 1924b: pl. LVIII). Alternatively, only one scarab from this workshop was found in a Theban context, scarab **268** from the Tomb of Hatnefer and Ramose. This tomb dates to the reign of Hatshepsut, whereas Tomb 27 at Gurob dates to the commencement of the Eighteenth Dynasty. These scarabs were found throughout Egypt, the Levant, and even the Aegean (Boschloos 2012b).[249]

A faience cowroid from Gebel el-Zeit (**710**) and one of frit from the Tomb of Maket (**814**) that are inscribed with a simple 'X' base design are not from this particular workshop as it only created the scarabs of cornelian or red jasper, but instead were from another workshop that was likely inspired by the cornelian one (Boschloos 2012b: 9).

6.2.2.2. Other Memphite/Fayum Workshop(s)

One distinct feature that appears more frequently and earlier on the scarabs of the Fayum region are humeral callosities (as seen on fig. 2.1). These V-shaped incisions that mark the shoulders of the insect are characteristic of the Eighteenth Dynasty and only rarely seen before. Two-thirds of the scarabs from the Tomb of Maket at Lahun (which was in used from the reign of Thutmose I to Thutmose III) depict humeral callosities, whereas less than half of the scarabs at any other site display this feature.

Furthermore, the first datable scarab bearing humeral callosities is inscribed with the name of Auserre Apepi, a Hyksos ruler from near the end of the Second Intermediate Period (MMA 15.171). Perhaps the humeral callosities evolved from the side notches seen on the Second Intermediate Period Hyksos and Canaanite scarabs, and then became more popular from the north to south. However, the very early Eighteenth Dynasty tombs of Gurob do not bear any examples of humeral callosities. Perhaps, the rise in popularity of the humeral callosities occurred after the reign of Amenhotep I but some time before the mid-Eighteenth Dynasty.

The Memphite/Fayum workshop(s) also display more evidence of variety in scarab features than seen on the Theban made scarabs. For example, all of the Theban and Gebel el-Zeit scarabs were carved with d or e type legs[250], whereas there are nine scarabs from the Tomb of Maket that display an array of b and c type legs.

6.3. Synthesis of 'Typological' and 'Material' Seal Amulet Workshops

While many thousands of seal amulets have been found on sites throughout Egypt, the evidence of their workshops is more sparing. The 'typological' seal amulet workshops from Egypt in the early

[249] For further information about the international reach and inspiration of this design class, see Chapter 6.2.2.1.
[250] There are two scarabs from Gebel el-Zeit that may have type b and c legs; however, due to wear it is impossible to verify.

Eighteenth Dynasty (discussed above) and from other periods and regions (discussed below) are suggested based upon shared characteristics and material. In contrast, 'material' seal amulet workshops are the archaeological evidence on a site of the manufacture of seal amulets. Both the 'typological' and 'material' scarab and seal amulet workshops will be discussed in more detail below and the rare circumstances in which a 'typological' seal amulet's manufacturing location can be posited will also be outlined.

6.3.1. 'Typological' Seal Amulet Workshops

There have been many studies of 'typological' seal amulet workshops in Egypt and beyond (Keel 1989a; 1989b; 1989c; Collon 1986; Mlinar 2004; Ben-Tor and Keel 2012; Boonstra 2014; Boschloos 2015). One of the most notable 'typological' seal amulet workshops from ancient Egypt was published by Mlinar (2004) located at Tell el-Dab'a on the basis of the surface characteristics of the scarabs. Mlinar determined that the Second Intermediate Period northern capital city was producing their own scarabs due to the presence of scarab types seen earlier and more frequently at Tell el-Dab'a than anywhere else. She determined that the earliest scarabs at the site were typical Egyptian-made Middle Kingdom scarabs; however, then Tell el-Dab'a began producing their own scarabs, imitating the earlier seal amulets. During the Second Intermediate Period Tell el-Dab'a was not only producing their own unique scarabs and seal amulets, but they were also importing them from the southern Levant (likely Tell el-'Ajjul). Mlinar demonstrated the multiple types of seal amulets produced at this workshop during the period; however, no evidence of the archaeological presence of a 'material' seal amulet workshop is presented. This could be due to this evidence often being difficult to find in the archaeological record.

The 'Hatshepsut Workshop', 'El-Khokha Faience Workshop', and the 'Cornelian/Red Jasper Workshop' that were discussed in detail above in Chapter 6.2.1 and 6.2.2 are also 'typological' seal amulet workshops. Similar to the workshop at Tell el-Dab'a, there is no archaeological evidence for the corresponding 'material' workshops. The large quantity of seal amulets assigned to the 'Hatshepsut Workshop' can however allow some theories regarding the organisation of a royal seal amulet workshop in the early Eighteenth Dynasty. As noted by others (Hayes 1959: 88; Ben-Tor 2015: 139) these seal amulets all appear to have never been used prior to their deposition in the foundation deposits at *Djeser-djeseru*. This could allude to the mass-production of glazed steatite scarabs and seal amulets 'made to order' for the 'stretching of the cord' ceremony. Many of the seal amulets bear identical inscriptions invoking the queen, as well as the god Amun. Due to the variety in how these hieroglyphs were rendered, it is likely that multiple craftspeople were carving the seal amulets rather than a lone artisan. There is even possible evidence for more than one craftsperson working on a single seal amulet. For example, cowroids **221** and **233** appear virtually

indistinguishable with falcons wearing the *atef* crown and clutching *shen* rings on their backs and were very likely carved by the same skilled artisan. However, the base designs are radically different and are of a reduced quality (fig. 5.22). In this instance, perhaps a 'master' craftsperson carved these backs, whose bases were then later carved by apprentice craftspeople (see Connor 2018: 12-14 for discussions on work by individual craftspeople). Similarly, a single craftsperson can be seen in *wedjat* eye scaraboids **224** and **225** (fig. 5.23). Both their backs and bases are nearly identical, with the only difference being the placement of the *mrj* hieroglyph on their bases.

A unique example of a 'typological' workshop on a site is the Eighteenth Dynasty faience scarab workshop at the Northern Levantine site of Beth Shean. The scarabs mimic common Egyptian Eighteenth Dynasty examples (including the *Jmn-R'* motif); however, they are all reversed. The Egyptian steatite prototypes for these scarabs would have arrived at Beth Shean due to trade or colonial activities where they were then impressed into clay to create moulds, thus reversing the designs. These clay moulds were then used to produce the copies in faience. Furthermore, while the steatite Egyptian prototypes were generally carved with d5 or d6 legs, the Beth Shean faience examples have no legs depicted, likely due to inexperienced scarab producers, unlike other faience scarabs where the legs are still rendered (Ben-Tor and Keel 2012). While evidence for a faience workshop was found on site (McGovern *et al.* 1993), unfortunately the scarab moulds that produced the Beth Shean scarabs have not been discovered. Nevertheless, the workshop was certainly located at Beth Shean as the majority of examples were found on the site and not a single parallel was found outside of Palestine (Ben-Tor and Keel 2012: 87).

Due to the evidence of hard stone bead production alongside those of glass and faience at the Amarna workshop of M50.14-16 (see below), perhaps the 'Cornelian/Red Jasper Workshop' could have been situated alongside a glazed materials workshop, such as at Gurob where there is known evidence of vitreous material manufacture, albeit in the late Eighteenth Dynasty (Hodgkinson 2018: 248-259).

6.3.2. 'Material' Seal Amulet Workshops

Sites that have archaeological evidence of a 'material' seal amulet workshop include Amarna (late Eighteenth Dynasty), Malkata (late Eighteenth Dynasty), and Memphis (New Kingdom).

The capital of the late Eighteenth Dynasty Amarna Period, Tell el-Amarna has evidence of faience and even metal scarab production. Throughout the history of excavations at the Middle Egyptian site, a wide variety of industrial evidence has been excavated and studied (Boyce 1995; Nicholson 2007; Stevens and Eccleston 2007: 149-152; Kemp and Stevens 2010a; 2010b; Rose 2012; Shaw 2012: 127-150; Hodgkinson 2015; 2018).

When Petrie first excavated Amarna in 1894, he noted the presence of kilns, 'many pebbles of white quartz', some of which had glaze dripped upon them (Petrie 1894: 26), and 'many' moulds (Petrie 1894: 28-29). At least two of the moulds illustrated in the original publication were for scarab production (pl. XVII, 334-335); however, many of the 'mould[s] for rings' on plate XVI could double as moulds for scarab bases due to their oval shape. Unfortunately, Petrie's description of the glazing workshop is vague, contradictory, and fails to describe where on the site the workshop is located (Nicholson 2007: 14), although he does note an area of 'MOULDS' on his map of Amarna (Petrie 1894: pl. XXXV).

In the 1920s, Peet excavated three seal amulet moulds from the area of N49 in the Main City South (Peet and Woolley 1923: 23-25). One of the moulds, a 'clay scarab mould' (as designated on the object card TA.OC.21.484) is the mould for the sealing plate of an oval amulet. There is no clear evidence that this mould was used for a scarab, but rather could have been used for any faience seal amulet with an oval base. Another mould (described but not illustrated on object card TA.OC.21.467) is listed as 'Mould. Limestone – double.? Two scarabs'. During the later 1930s excavations by Frankfort and Pendlebury, another limestone scarab mould was discovered in the North Suburb of the city (Frankfort and Pendlebury 1933: 45, pl. XL, no. 2). Fortunately, this mould was illustrated and photographed and its difference to the typical clay scarab moulds is immediately apparent (fig. 6.7). The limestone mould is 11 by 9 cm and was used to mould scarabs and other amulets and beads. Instead of being used to create faience amulets, the excavators believed that this mould was used in the manufacture of metal amulets, as can be seen on the object card (TA.OC.30-31.020, fig. 6.7).

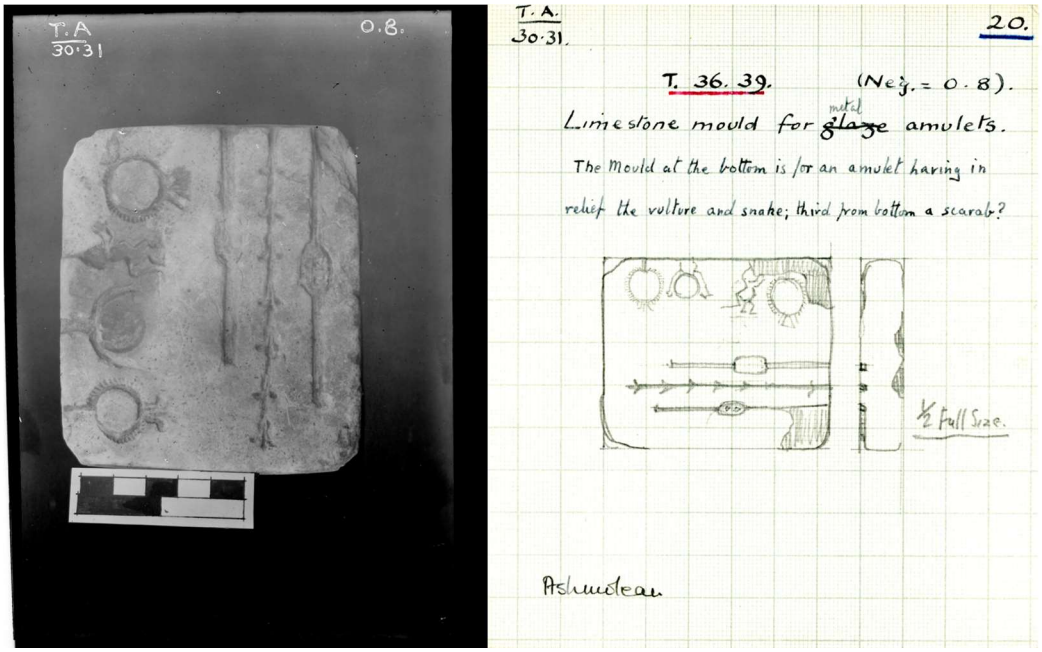

Figure 6.7: Photograph (left, TA.NEG.30-31.O.008) and object card (right, TA.OC.30-31.020) of limestone amulet and scarab mould from area T.36.39 of Tell el-Amarna (courtesy of the Egypt Exploration Society).

In the 1990s, Nicholson returned to restudy the glazing works and clarify Petrie's past work to publish a detailed account of the production site O45.1, which is found to the south of the Great Palace and Small Aten Temple and to the west of the Main City (Nicholson 2007: map 3.1 A, B). Nicholson noted the presence of kilns appropriate for faience and glass production, pebbles of quartz, moulds, and misfired and misshapen faience objects 'making it clear that this was a production site' (Nicholson 2007: 133). Nicholson did not note the presence of seal amulet production at this faience workshop; however, it is quite likely that faience seal amulets would have been produced at this workshop alongside other faience amulets and were included in Petrie's original publication (similarly to M50.14-.16, see below).

The Amarna Project's more recent excavations led by Kemp and Stevens have discovered a further three broken clay scarab moulds in the Main City South (Kemp and Stevens 2010a; 2010b: 481-484). While very little of each of the moulds have remained intact, they were uncovered in an area of vitreous material production, where the finds included fired clay moulds, crucibles, faience amulets and wasters, and glass ingots and rods (Kemp and Stevens 2010a: 528-606).

Hodgkinson (2015) re-excavated and studied the building complex M50.14-.16 in the Main City South that was originally excavated by Woolley in 1922. The original excavations described the area as having the remains of a glaze kiln, 'burnt brick, glass and glaze slag', and fragments of ceramic vessels used as kiln stands, which were covered in glaze drippings (Peet and Woolley 1923: 19). Although no kiln was found upon re-excavation, the modern surface of the courtyard to the south of M50.16 was 'covered with vitrified material' denoting high-temperature technologies (Hodgkinson 2015: 281). A total of 328 faience and ninety-two glass beads were found in the workshop alongside glass rods, bars, and ingots. Misshapen and broken beads were also found, as well as debitage of red pebbles. Five ceramic moulds for faience objects representing a variety of amulets were found on site, as well as a faience scarab to match one of the moulds (fig. 6.8; Hodgkinson 2015: 282).

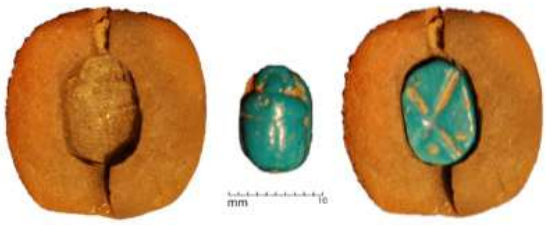

Figure 6.8: Clay mould for a scarab (left) found at Tell el-Amarna, M50.14. A faience scarab (centre) fitting the mould, as demonstrated on the right, was also found on site (photograph courtesy of Anna Hodgkinson).

Multiple other production areas were discovered in the Main City South, including those in gridsquares O49 and P46. The workshop in O49 contained a wide variety of craftwork, including weaving, leather-working, sculpting, metalworking, and faience production, whereas the archaeological record demonstrates that the P46 workshop was devoted to faience production (Shaw 2012: 142-146).

In 1900, Newberry excavated 'the earliest known glass factory' at the late Eighteenth Dynasty site of Malkata. Newberry discovered small crucibles with dark blue glass, as well as coloured glass rods, along with faience objects and hundreds of moulds (Tytus 1903: 25; Newberry 1920: 156; Nicholson 2007: 20-21). Hayes (1959: 254) noted that some of the ceramic moulds were even filled with faience paste, definitively demonstrating that they were used for faience amulet production. At least two scarab moulds were found in this glass and faience factory.[251] No kilns were discovered on the site; however, this could be due to poor preservation or recording (Friedman 1998: 257; Nicholson 2007: 21).

Figure 6.9: Unfinished and broken steatite scarabs from Memphis (Leicester Museums L.A162.1909).

The city of Memphis has archaeological evidence of steatite scarab production. In 1909, while excavating the outer court of the Temple of Merneptah at Memphis, Petrie discovered a workshop area that had remains of 'glazed beads and waste beads, and great numbers of little pellets of burnt clay about a quarter of an inch across', which he believed were used to separate objects in the kiln. Petrie also noted that 'many' unfinished steatite scarabs 'roughly blocked out' (fig. 6.9) and unfinished calcite beads were discovered on the western side of the outer court of the Temple of Merneptah (Petrie 1909: 11, pl. XXVIII figs 13, 14; Keel 1995: 34). Petrie (1909: 11) noted that the workshop was located 'below the houses, belonging to a time when rubbish was thrown into the court, but before it was appropriated to civil use', thus dating the workshop to before the Nineteenth Dynasty temple. However, how much the workshop predates the temple is unclear. Unfortunately, Petrie gives no further information about the scarab workshop.

In the 2000s, Nicholson excavated the Kom Helul area of Memphis, which is located south of the Temple of Merneptah. Petrie (1911: 34) first noticed the presence of kilns at Kom Helul in the late

[251] See Metropolitan Museum of Art object number 11.214.683 for an example of a scarab mould excavated at Malkata from the Met's 1910-1911 excavations.

1880s but was not able to excavate until 1908, and during this time the site was plundered.[252] Petrie did excavate at least six kilns as well as faience, which he called 'pottery kilns' and 'blue glazed pottery', respectively, even though he was aware that what he was excavating was faience (1909: 14; 1911: 34). Unfortunately, the 'glazed ware' workshop excavated by Petrie was poorly recorded and no plans or maps were produced (Nicholson 2013: 8, 10). Nicholson's (2013) publication of his recent excavations and study of Petrie's early excavations demonstrated that there was faience industry at Kom Helul definitively dating to the Roman Period, and perhaps earlier.

There are a few semi-precious stone seal amulet workshops known based upon their material and surface characteristics rather than archaeological evidence of a 'material' workshop (Keel 1989b; Boschloos 2012b). However, there are no known hard or semi-precious stone seal amulet workshops based upon archaeological evidence at any site.[253] This is likely due to the fact that semi-precious stone seal amulets would have been produced alongside other semi-precious stone jewellery and therefore could more accurately be described as jewellery workshops.

A number of glazed materials workshops are known dating to the Eighteenth Dynasty or New Kingdom that could have also been producing seal amulets. For example, the faience scarab and corresponding mould from Amarna was found in the 'bead workshop' that produced faience, glass, and chalcedony beads (Hodgkinson 2015).

There may also be glass and faience workshops at Medinet Gurob and Lisht dating to the New Kingdom; however, a combination of poor excavation techniques and inadequate recording does not allow any firm conclusions at present (Nicholson 2007: 21-22). Fortunately, Ian Shaw has excavated at Gurob in recent years, which may lead to further information about a glass and faience industry on site.

6.3.3. Combined 'Typological' and 'Material' Seal Amulet Workshops

A few sites have evidence of both a 'typological' and 'material' seal amulet workshop based upon typological studies of the seal amulets, as well as archaeological evidence of production.

In 1885, Petrie discovered the waste of a workshop near the sanctuary of Aphrodite at Naukratis, a Saite Period site in the Nile Delta. In this waste pile, Petrie found amulets (Petrie 1886: pl. XXXVII), hundreds of moulds (pl. XXXVIII), as well as some raw materials for production (Masson 2013: 5). Within the Naukratis 'Scarab Factory', as Petrie designated it, 678 moulds for producing scarabs, heads, and discs were excavated, whereas only a total of seventeen for other amulets, including one

[252] For a discussion of the possible link between the plunderer of Kom Helul and Major William Joseph Myers (1858-1899), see Nicholson 2013: 7-8.
[253] Hodgkinson (2015: 282) noted the presence of semi-precious stone amulet or bead carving at the M50.14-.16 bead workshop at Amarna along with the presence of a scarab mould. Therefore, it is possible that semi-precious stone scarabs were also carved at this workshop; however, there is no concrete evidence of this at present.

of Bes, and another of a lion's head were found (Petrie 1886: 37; Gorton 1996: 177). This 'factory' mass-produced amulets, particularly scarabs, of faience and frit between 600 and 570 BCE (Petrie 1886: 36; Masson-Berghoff 2016).

Petrie's findings at Naukratis were bolstered by the typological study of the Naukratis seal amulets by Gorton (1996: 91-131). Gorton identified seven distinct seal amulet types that were mass-produced at the Naukratis 'Scarab Factory'. One of the types, Type XXXVI, was even inscribed with the praenomen of Thutmose III, evidence of the long-standing posthumous production of the king's name on seal amulets (Gorton 1996: 129). By studying the distribution of the Naukratis scarabs, Gorton found that they were widely exported with examples throughout Greece and the Punic world.

Tell el-'Ajjul, a city in the modern Gaza strip of Palestine, was an important Middle Bronze II (Second Intermediate Period) trading city (Fischer and Sadeq 2000). This site is of particular importance to discussion on Canaanite seal amulets, as over 1200 seal amulets were found there during Petrie's 1930s excavations, nearly double that found at any other Levantine site (Tufnell 1984: 92; Keel 1997; Keel 2013; Boonstra 2014). One distinct type (with two sub-types) was found at the site in large numbers. In the 2014 study of the scarabs held at University College London, 25% of the scarabs bore the same features of D-type heads, 'Shesha' backs, and schematic e10 or e11 legs with two distinct recurring base motifs (see Chapter 7.1.3).

Figure 6.10: Unfinished steatite scarab from Tell el-'Ajjul dating to the Second Intermediate Period (EXIII.166/1, UCL, Institute of Archaeology).

This typological evidence is bolstered by the discovery of a single unfinished steatite scarab that was excavated by Petrie in the 1930s (EXIII.166/1). The scarab is completely blank and unfired but carved into a rough scaraboid shape (fig. 6.10). This unfinished scarab was discovered in a poorly documented area of the site and was not published by Petrie (Boonstra 2014: 25-26). Keel (1995: 33) noted another unfinished and roughly hewn steatite scarab from Tell el-'Ajjul, however, no context is given for the find. No kilns or other evidence for manufacture was excavated on site; however, this could be due to poor excavation methods and recording (Boonstra 2014: 7-9).

Building upon the past research into ancient Egyptian workshops, their organisation, and their identification, this chapter then suggested three concrete 'typological' seal amulet workshops operating in the early Eighteenth Dynasty based upon the materials and patterns of surface characteristics outlined in previous chapters. The three 'typological' workshops identified can then

act as a framework to allow future additions of newly discovered scarabs and seal amulets. A synthesis of the known 'typological' and 'material' seal amulet workshops made evident that a variety of types of seal amulet workshops have been found in both Egypt and the Levant. From the evidence of state-controlled, large-scale seal amulet production such as the 'Hatshepsut Workshop', to the smaller-scale production of scarabs alongside other amulets and beads at M50.14-.16, seal amulets were clearly produced in large numbers for millennia. Further study and excavation will certainly unearth more evidence for seal amulet production in Egypt and beyond and the potential to find further evidence of sites in which the 'typological' and 'material' workshops may be united.

Chapter Seven:
THE SIGNIFICANCE OF EARLY EIGHTEENTH DYNASTY SEAL AMULET WORKSHOPS

The seal amulets of the early Eighteenth Dynasty can be used to discuss material importance (Chapter 4), design choices (Chapter 5), and ultimately craft production and the varied types of workshops (Chapter 6). However, these seal amulets and their workshops can also be utilised to tackle larger questions regarding the early Eighteenth Dynasty. Scarab experts have demonstrated in the past that seal amulets can aid in recreating the political, religious, and cultural landscapes of ancient Egypt (Ben-Tor 2007: 185-193). The seal amulets from the early Eighteenth Dynasty are similar and can shed some light on the socio-political trends of the period. As the present study included some seal amulets from the latter half of the Eighteenth Dynasty (see Chapter 3.2), a preliminary discussion of the political and cultural influences of the changes in features will be made.

7.1. The Early Eighteenth Dynasty as Reflected by the Seal Amulets

Although the dataset is a chronologically and geographically representative sample of the seal amulets of the early Eighteenth Dynasty, as this study necessitated the use of only well-contextualised groups of seal amulets, there is still a bias in the corpus. This bias is due to most seal amulet groups having been found in elite tomb assemblages. The thirty-three seal amulets from the Tomb of Hatnefer and Ramose at Sheikh ‘Abd el-Qurna, for example, represent a portion of a funerary assemblage from an elite family’s tomb (Dorman 2005a). The seal amulets from within the tomb can assist in answering the research questions of the study (for example, scarab production, workshops, and the significance); however, this is a biased view as most ancient Egyptians could not have afforded such a burial place for themselves and their family (Baines and Lacovara 2002: 12-14; Stevens *et al.* 2016: 16-17). While the el-Khokha tombs CC 37 and CC 41 housed persons that were less elite than the family of Hatnefer and Ramose, or of Maket from Lahun, the tombs still likely did not contain the burials of the lowest tier of ancient Egypt’s social hierarchy. Many of the coffins in these el-Khokha tombs contained multiple burials but many of the deceased were still buried with grave goods and the fact that they were placed in coffins demonstrates that they had more wealth than many in ancient Egypt (see Chapter 3.2.3 for more information about the el-Khokha tombs). For example, in the excavations of the cemeteries of the non-elite at Amarna, the excavators have noted that the presence of grave goods were very rare in the burials of labourers (Stevens and Dabbs in Kemp 2018: 8-9). Therefore, their possessions, or lack thereof, are not represented in the present study.

On the other hand, the seal amulets left as votive offerings to Hathor and other deities in the Site 1 mining sanctuary at Gebel el-Zeit were almost certainly left by workers on a mining expedition (Pinch

1993: 331-332). Unfortunately, little is known about the people who left the seal amulets as offerings at Gebel el-Zeit. Perhaps the seal amulets were left by the miners while the larger faience stelae were deposited by the 'foremen' of the expeditions (Pinch 1993: 332; Régen and Soukiassian 2008: 9-66).

Regardless, the Gebel el-Zeit assemblage of seal amulets can answer some questions regarding the usage of seal amulets in a religious context by even the lower social classes of the Eighteenth Dynasty.

7.1.1. Reunification, the Return to Thebes, and Re-establishing Traditions

After the expulsion of the Hyksos rulers and subsequent reunification of Egypt by King Ahmose at the start of the New Kingdom, the capital of Egypt returned to Thebes and a dramatic change was seen in many of the early Eighteenth Dynasty scarabs. Distancing themselves from the foreign rulers of the Second Intermediate Period, the distinctive Hyksos and Canaanite D type heads, 'Shesha' style backs, and schematic legs are largely dropped in favour of lunate heads, lined backs, and chip carved legs. This 'new' style of scarab was not in fact new as all of these features were popular on Theban made scarabs dating to the late First Intermediate Period and Middle Kingdom.

This archaising trend is mirrored in other aspects of the early Eighteenth Dynasty, as well. For example, the scarabs of the 'Hatshepsut Workshop' during the reign of Hatshepsut display A3 or A5 heads, Type I or II lined backs, and d6 legs. A3 heads were the most popular type in the late Eleventh Dynasty, lined backs were carved onto nearly all First Intermediate Period and early Middle Kingdom scarabs, and d6 legs first became popular in the Middle Kingdom (Ward 1978; Tufnell 1984). The foundation deposit scarabs evoke the late Eleventh and early Twelfth Dynasty, which parallels the setting in which they were deposited. Hatshepsut's mortuary temple, *Djeser-djeseru*, was built in an imitation of Mentuhotep II's temple with its distinct terraces and its orientation to the Nile. In fact, Hatshepsut's temple was built next to that of Mentuhotep II's, further linking her to the founder of the Middle Kingdom and perhaps demonstrating that she also hoped to be seen as the founder of a 'golden age' like Mentuhotep II had been (Roth 2005a: 147).

7.1.2. Religion – The cults of Amun-Re and Hathor

While the creator god Amun was an important deity in ancient Egyptian history from the Eleventh Dynasty onward, the Eighteenth Dynasty saw a revival of his cult after the Second Intermediate Period most notably with the return to Thebes as the capital, which boasted Karnak Temple (*Ip.t-sw.t*), the primary centre of worship of the deity (Allen 2005a: 83; Ben-Tor 2015: 140-141). The Eighteenth Dynasty also saw the rise of the deity, Amun-Re, who was a syncretism of the creator god Amun and the sun god Re. The importance of this deity is noticeable on the seal amulets of the early

Eighteenth Dynasty as ninety-six examples in the corpus from throughout Egypt were engraved with the name of Amun or Amun-Re, which was not seen before this period (see Chapter 5.2.2.1). This god was of particular importance to Queen Hatshepsut whose mythical birth story, inscribed upon the walls of her mortuary temple, indicated that the queen was born of Queen Ahmose and Amun-Re in the guise of her father Thutmose I (Allen 2005a: 83).

The Hathor cult was also popular during not only the Eighteenth Dynasty but also the Second Intermediate Period (Keel 1995: 213; Pinch 1993). Two of the sites in the present study were of particular importance to the Hathor cult and therefore the corpus contains a number of seal amulets bearing Hathoric motifs. Gebel el-Zeit, a galena mine, contained a sanctuary that was primarily dedicated to the goddess; one of Hathor's titles was fittingly 'mistress of galena'. In and around the Gebel el-Zeit sanctuary, stelae dedicated to the goddess as well as scaraboids of cats, seal amulets bearing Hathoric sistrums, and other motifs connected to the goddess were found (Régen and Soukiassian 2008). It is believed that the votive offerings to Hathor found at Gebel el-Zeit would have been obtained in the Nile Valley (likely Thebes) and brought by individual miners to offer to the goddess due to the small size and lack of 'royal name faience' on the site in comparison to other Hathor sanctuaries, such as at the mines of Serabit el-Khadim and Timna. In contrast, the small faience stelae were likely deposited by the leaders of the mining expedition (Pinch 1993: 331-332; Régen and Soukiassian 2008: 9-66).

7.1.3. Cultural Interaction

Many conclusions have been made about the political and cultural landscape of Egypt in the Second Intermediate Period in part due to the evidence from scarabs and seal amulets that date to this period (Ryholt 1997[254]; Ben-Tor 2004a; 2007; Mlinar 2004). This period saw a large number of Canaanite made seal amulets in Egypt, which can be seen on some of the Second Intermediate Period examples in the corpus from Gebel el-Zeit and el-Khokha. Also, during this period, the Hyksos seal amulet workshop at Tell el-Dab'a were producing seal amulets that displayed a hybrid of Middle Kingdom Egyptian features and Middle Bronze Age Canaanite features (Mlinar 2004).

As the Eighteenth Dynasty was characterised by a unified Egypt, it can appear difficult to see evidence of cultural interaction and appropriation on the seal amulets of the period. While a major push was made in the early Eighteenth Dynasty to distance the dynasty from the foreign northern rulers of the preceding period, some lingering Canaanite influence can still be seen. For example, seal amulets bearing the *anra* formula (see Chapter 5.2.2.5) were characteristic of the Second Intermediate Period, particularly on Canaanite made scarabs (Richards 2001). However, Richards

[254] See Ben-Tor *et al*. (1999) for a critique of Ryholt's usage of the royal name seal amulets of the Second Intermediate Period in recreating the chronology and political history of the period.

(2001: 111) observed that a small number of scarabs bearing this nonsensical formula were produced in the early Eighteenth Dynasty, which could account for scarabs **582** and **720** from Gebel el-Zeit that bear typically Eighteenth Dynasty body features alongside the formula of Palestinian origin. It is possible that these scarabs from Gebel el-Zeit were imported from the Levant, although since there is limited evidence for scarab manufacture in Palestine in the Eighteenth Dynasty, it is also possible that they were produced in Egypt imitating the popular Second Intermediate Period motif.

The 'Cornelian/Red Jasper Workshop' group of scarabs display clear evidence of cultural interaction in the Eighteenth Dynasty. First, while this particular type of scarab originated in Middle Egypt, scarabs from this workshop were found throughout Egypt, with examples found in Nubia and many excavated in the Levant. Additionally, two cornelian scarabs with the distinctive motif were discovered on Crete and another in Athens (Boschloos 2015). Furthermore, the design itself is not particularly Egyptian, which has led many scholars to believe that the scarabs were manufactured in workshops in the Levant (Lalkin 2008: Chapter 8.3) or on Crete (Phillips 2008: 145). The 'X' or star design was a fairly universal motif seen on Minoan, Mesopotamian, and Levantine artefacts and likely points to either Near Eastern influence on the Egyptian craftspeople or perhaps even foreign artisans producing the seal amulets in an Egyptian workshop (Boschloos 2015: 9-10).

The Second Intermediate Period saw a boom in Canaanite made scarabs in the Levant (Keel 1995; Ben-Tor 2007; Boonstra 2014). This is believed to largely be because of the close relations between Egypt and the southern Levant during the period. In Egypt this cultural interaction is most noticeable at the Hyksos capital of Tell el-Dab'a where a large amount of Levantine pottery was found.[255] Furthermore, a scarab workshop dating to the Second Intermediate Period was producing seal amulets inspired by both Egyptian and Canaanite motifs and these seal amulets were then found as far south as Nubia as well as throughout the Levant (Mlinar 2004). In the Levant, the seal amulet industry is visible in the thousands of scarabs, cowroids, and scaraboids throughout the region (Keel 1995; 1997; Ben-Tor 2007), as well as a clear steatite scarab workshop at Tell el-'Ajjul (likely ancient Sharuhen) during the Middle Bronze Age (Mlinar in Fischer and Sadeq 2000; Boonstra 2014).

The impact of the Tell el-'Ajjul and Tell el-Dab'a workshops are also seen in the corpus. Scarab **276** from the Tomb of Neferkhawet at el-Khokha bears a rare example of the base motif depicting a standing falcon-headed man wearing a kilt next to a vertical crocodile, all above a *nb* sign (fig. 7.1). This base motif was first seen on Canaanite scarabs in the early Fifteenth Dynasty, which were produced at Tell el-'Ajjul (Tell el-'Ajjul Type Ib; Boonstra 2014: 36-39) before being imitated at the Tell el-Dab'a workshop in the late Fifteenth Dynasty (Tell el-Dab'a Type VIb; Mlinar 2004: 132). The primary difference between the Tell el-'Ajjul and the Tell el-Dab'a types is the cutting of the legs; the earlier Tell el-'Ajjul examples bear legs in the simplistic e10 or e11 styles. However, the

[255] See McGovern and Harbottle (1997) and Cohen-Weinberger and Goren (2004) for conflicting views of where in the Levant the pottery originated from.

scarab from the Tomb of Neferkhawet bears the more detailed e4 style. Therefore, this scarab demonstrates the impact of the Canaanite produced scarabs on the later Hyksos-made ones, which was likely held as an heirloom into the early Eighteenth Dynasty.

Figure 7.1: Scarab **276** (left) from the Tomb of Neferkhawet produced in the Tell el-Dab'a workshop (Type VIb), imitating the original Canaanite made Tell el-'Ajjul Type Ib (right) (MMA 35.3.46; EXI.9/1, UCL, Institute of Archaeology).

An interesting point of evidence for internal cultural interaction can be seen on two Second Intermediate Period scarabs from Gebel el-Zeit. As a natural starting point for an expedition to the Red Sea was the Theban region (either from Koptos via the Wadi Hammamat or further north from Qena), it is understandable that a scarab bearing the name of Theban Seventeenth Dynasty king, Sewadjenre (**481**) was discovered there. However, it is interesting to note that a scarab bearing the name of rival Hyksos king Apophis (**429**) was also found in the Gebel el-Zeit sanctuary. As the northern Hyksos and southern Theban dynasties were at war during the Second Intermediate Period, it is odd that seal amulets bearing the names of both kings were kept and deposited by itinerant miners at the site. This could perhaps allude to a change in control of the Red Sea site, with the powerful northern kingdom holding it for the beginning of the Second Intermediate Period before the Theban northern advance during the latter half of the period took control of Gebel el-Zeit. Further research into the origins of the mining expeditions of Gebel el-Zeit could answer this question in the future.

After the expulsion of the Hyksos rulers from the Nile Delta, which began the New Kingdom, the close relations between Egypt and the southern Levant, as well as the flourishing Canaanite steatite seal amulet industry, dramatically fell (Ben-Tor and Keel 2012: 87-88). Where the Middle Bronze Age saw large-scale seal amulet production in the Levant with Canaanite made scarabs found throughout the region, the Late Bronze Age saw predominantly Egyptian imported seal amulets in Palestinian contexts and in far fewer numbers. One notable exception was a small scarab workshop at Beth Shean in northern Palestine. This workshop starkly contrasts the Middle Bronze Age workshops of the Levant in that it was a small-scale, local workshop, the scarabs were all made of faience instead of steatite, and its output did not travel far and was concentrated around the site of Beth Shean. In fact, no Beth Shean faience scarabs have been found outside Palestine (Ben-Tor and Keel 2012: 87). The faience scarabs were created in a direct imitation of known Eighteenth Dynasty scarabs. Moreover, it appears that the Beth Shean faience scarabs were made from moulds that were taken of Eighteenth Dynasty Egyptian imported scarabs, because the base designs all face left where in contrast, all the known Eighteenth Dynasty Egyptian examples face right (fig. 7.2) Additionally,

no Beth Shean scarabs depict the legs of the scarabs. While it has been noted (see Chapter 5.1.1.3.2) that many Canaanite made scarabs depicted the legs as very simplistic (type e10 or e11; Mlinar in Fischer and Sadeq 2002: 149; Boonstra 2014: 33), the Beth Shean scarabs instead appear to only have a join mark where the two moulds (one for the back and one for the base) met (Ben-Tor and Keel 2012: 88).

Figure 7.2: Base of faience scarab from the Beth Shean workshop (left, scale not known) which has the name of Amenhotep written from left to right in comparison with scarab **394** from Gebel el-Zeit (right) inscribed with the king's name from right to left as seen on all of the examples in the corpus (Ben-Tor and Keel 2012: fig. 19; Régen and Soukiassian 2008: 147).

The base designs on these Beth Shean produced faience scarabs have all been found on Eighteenth Dynasty Egyptian scarabs, including inscriptions of Amun/Amun-Re, Hathor, and falcons, as well as one example inscribed with the name of Amenhotep I (fig. 7.2; Ben-Tor and Keel 2012: 93-96). During the reign of Thutmose III, Beth Shean was conquered and was then converted into an Egyptian garrison in the mid to late Eighteenth Dynasty where it remained an important Egyptian garrison particularly in the Ramesside Period (McGovern *et al.* 1993: 1; Morris 2005: 249-254). A prosperous New Kingdom faience industry was discovered at the site with much of its evidence from the Nineteenth and Twentieth Dynasties creating Egyptian style beads and pendants (McGovern *et al*. 1993: 3-5, 161-162; Morris 2005: 15-16); however, it appears that they were producing imitations of Egyptian scarabs during the mid to late Eighteenth Dynasty, as well if not earlier using local materials and an adaptation of the Egyptian glazing methods (McGovern *et al*. 1993: 5-6; Ben-Tor and Keel 2012: 97-98).[256] During the Middle Bronze Age/Second Intermediate Period, scarabs and seal amulets were frequently found deposited in funerary contexts in the Levant, similar to their amuletic usage in Egypt (see Chapter 1.2 for further details on usage). However, at Beth Shean in the Late Bronze Age/New Kingdom, these faience scarabs and those imported from Egypt were found solely in temple contexts, which demonstrates a change in the Levantine usage of these Egyptian or Egyptianising objects (James and McGovern 1993: 128; Weinstein 1993: 225; Ben-Tor and Keel 2012: 97).

[256] It is certain that the small faience artefacts discovered at Beth Shean (predominantly amulets and beads) were created on site due to scientific testing of the objects (McGovern *et al*. 1993). However, the excavators noted that the larger faience artefacts (vessels, etc.) found on site were instead Egyptian imports (McGovern *et al.* 1993: 8-9; Ben-Tor and Keel 2012: 97).

The seal amulets of the Eighteenth Dynasty demonstrate a marked difference in terms of the international appropriation and usage compared to the Second Intermediate Period where the Hyksos and Canaanite made scarabs dominated the scene (Ben-Tor 2007).

7.2 Egypt in the Mid to Late Eighteenth Dynasty as Reflected by the Seal Amulets

Most of the assemblages of seal amulets in this study's corpus date up to mid Eighteenth Dynasty. After the death of Hatshepsut (c. 1458 BCE), her nephew and co-regent Thutmose III took sole rule over Egypt (Allen 2005b: 261) and during the reign of Thutmose III scarabs and seal amulets experienced a change (Jaeger 1982: 260, 262; Ben-Tor 2015: 144). While the middle and late Eighteenth Dynasty scarabs were not the focus of this study, some preliminary observations have been made, primarily based upon the scarabs of Thutmose III and those of the late Eighteenth Dynasty at Gebel el-Zeit.

The body features of the scarabs modify during the reign of Thutmose III although in a subtle way. In terms of the head types, while the lunate A type heads remain popular throughout the Eighteenth Dynasty, the A5 head, which was especially popular in the 'Hatshepsut Workshop' (see above), decreases in popularity from the reign of Thutmose III onwards (see Chapter 5.1.1.1.1). This specific change could be interpreted in a number of ways. It can be seen as simply a style preference as each seal amulet workshop demonstrated its own preferences in surface features (as seen above Chapter 7.1). On the other hand, the apparent shunning of the A5 head type could also be interpreted as a deliberate move by his officials to distance the king from his former co-regent, further emphasising his individual, sole rule.

In regard to the base designs, one immediately apparent difference was a larger array in royal titles and epithets found on the seal amulets of Thutmose III compared to his predecessors in the Eighteenth Dynasty (Jaeger 1982: 260-262).[257] A total of 126 different royal epithets are known from the seal amulets of Thutmose III and more than fifty of these are first seen on seal amulets bearing the king's name (Jaeger 1982: 261).[258] After the reign of Thutmose III, the number and variety of royal epithets found on seal amulets continued to grow (Jaeger 1982: 261).

Furthermore, more deities were now inscribed on the seal amulets during the reign of Thutmose III with epithets stating that the king was 'beloved' by a great number of gods including Amun and Amun-Re, Hathor, Montu, Thoth, and Sobek-Re (Jaeger 1982: 262). Plaque **659** from Gebel el-Zeit is inscribed with the praenomen and nomen of the king as well as the phrase 'beloved of Sobek-Re,

[257] See Jaeger (1982: 262-263) for a list of royal epithets seen on the seal amulets of Thutmose III in comparison with his predecessors in the Eighteenth Dynasty.
[258] In comparison to the only fifty-three different epithets on the seal amulets of Hatshepsut, twenty-one of which were first seen on seal amulets bearing the queen's name (Jaeger 1982: 262).

lord of Sumenu' (see fig. 5.68 and Chapter 5.2.3.6).[259] This phrase was first popularized in the Middle Kingdom but was not used again on seal amulets in the Eighteenth Dynasty before the reign of Thutmose III (Jaeger 1982: 262). This turn to an archaising motif during the reign of Thutmose III could simply be explained by the expanding repertoire of epithets invoking gods during the king's reign, or perhaps due to similar motives as those seen in the earlier Eighteenth Dynasty by recapturing the iconography of the Middle Kingdom (see Chapter 7.1.1).

While it may be tempting to see the change in seal amulet style during the reign of Thutmose III as an intentional distancing from his aunt/stepmother and former co-regent Hatshepsut, concluding that it was done in revenge is an assumption without basis. For example, the *damnatio memoraie* that was inflicted upon Hatshepsut's royal monuments and statues was not conducted until at least twenty years into Thutmose III's sole reign (Dorman 2005e: 267), whereas the difference in seal amulets was seen from the start of his reign (Jaeger 1982: 260-265). The wide variety and innovation in seal amulets under Thutmose III could instead reflect the political stability of the king's rule. While the seal amulets and monuments of Hatshepsut (see the 'Hatshepsut Workshop' above) focused on archaising to draw links with the deities and past rulers of Thebes to legitimise her rule as a female king (Roth 2005a: 147), Thutmose III instead spent large portions of his rule focused on military campaigns in the Levant (Allen 2005b).

This innovation in seal amulets continues to be seen in the Eighteenth Dynasty even after the reign of Thutmose III. In fact, large[260] commemorative scarabs bearing lengthy texts are characteristic of Amenhotep III (Blankenberg-Van Delden 1969; Berman 1992b: 67), although this practice was first started during the reign of Thutmose III albeit on a smaller scale.[261] While no examples of Amenhotep III's commemorative scarabs, which are inscribed with texts about the king and frequently his chief queen Tiye, are present in the corpus (due to a focus on the early Eighteenth Dynasty rather than late[262]), at least two hundred examples are known from Nubia to Syria (Blankenberg-Van Delden 1969: 194-195; Berman 1992b: 67-68). These commemorative scarabs are a departure from the traditional amuletic scarabs, or even those intended to be used as seals, seen in the early Eighteenth Dynasty. They more closely resemble heart scarabs in both their size and their possession of a lengthy text inscribed upon their 'sealing plates' (see Chapter 5.2.2.7 for more information on heart scarabs); however, the Amenhotep III commemorative scarabs were generally made of glazed steatite (as were

[259] Jaeger (1982: 262) noted a particular trend on Thutmose III seal amulets to write that Thutmose was 'beloved of 'x deity', lord of 'y place''. This was most prominent on seal amulets bearing the name of Sobek-Re but was also seen on those invoking Montu and Djehuty, amongst others.
[260] The scarabs range in length from just under fifty millimetres to up to 110, with an average of seventy to ninety millimetres in length (Berman 1992b: 67).
[261] A series of comparatively small (c. 19 mm) scarabs detailing the erection of obelisks at Karnak Temple were issued by Thutmose III (Andrews 1994: 55). For example, see MMA 14.8 of unknown provenance, which is inscribed with the short text 'Menkheperre, whose two obelisks endure in the temple of Amun'.
[262] Furthermore, many of the large commemorative scarabs are from private collections rather than recorded excavations (Berman 1992b: 67). However, the distinct similarities throughout the Amenhotep III commemorative scarabs likely denote that they were made at the same workshop, perhaps at the same time.

most of the seal amulets in the present corpus) instead of a hard green stone that the heart scarabs were produced from (Berman 1992b; Andrews 1994: 55). Furthermore, the purpose of the commemorative scarabs differs from the solely funerary purpose of the heart scarabs. As these scarabs describing the king's lion hunt, his 'marriage' to Tiye, and the construction of an artificial lake, were found outside of and throughout Egypt, they are believed to have acted as 'commemorative medals' or palace news (Andrews 1994: 55). This commemorative scarab practice continued into the early Ramesside Period with a series of seal amulets recording the eighth jubilee of Ramesses II. However, after the end of the New Kingdom, seal amulets bearing royal names become rare (Andrews 1994: 55-56).

The mid to late Eighteenth Dynasty was largely characterised as a wealthy and peaceful period with abundant international trade throughout the Near East and Aegean (Berman 1992a: 33, 35).[263] While this is most obviously seen in the Amarna letters, or in the prolific building works under the reign of Amenhotep III, it is also reflected in the seal amulets of this period. The peace and cultural interaction can be seen in both the dispersion of the commemorative scarabs, as well as in finds such as the gold scarab bearing the name of Queen Nefertiti present in the shipwreck of Uluburun off the coast of Turkey (Gestoso Singer 2011). Furthermore, it is replicated in the innovations seen in the design motif repertoires of the seal amulets of the period.

In conclusion, while they may be small and unassuming, the seal amulets from the Eighteenth Dynasty can aid in reconstructing the historical, political, social, and religious narrative of ancient Egypt during this period. During the early Eighteenth Dynasty, the seal amulets of the 'Hatshepsut Workshop' noticeably resemble those of the Middle Kingdom. This archaising trend in the seal amulets mirrors the political trend during the early Eighteenth Dynasty, predominantly during the reign of Hatshepsut. Furthermore, the seal amulets of the period also echo the reforms in religion and demonstrate the deviations in cultural interaction with the Levant and beyond after the fall of the Hyksos rulers of the Second Intermediate Period.

In contrast, a noticeable change away from the popular styles of the early Eighteenth Dynasty seal amulets is made under the rule of Thutmose III and into the late Eighteenth Dynasty. The seal amulets made during his reign show far more variety in religious epithets, titles, and styles. The seal amulets of Thutmose III were widely distributed throughout Egypt and the surrounding regions and echo the vast empire that the king created in the wake of his distancing himself from his former co-regent Hatshepsut.

[263] The military campaigns of the period were generally focused on keeping the Levant under the annexation of Egypt (Berman 1992a; Allen 2005b).

Chapter Eight:
CONCLUSION

8.1. The Production and Significance of Early Eighteenth Dynasty Seal Amulets

By examining the archaeological evidence for the materials and production of seal amulets (Chapter 4) alongside the patterns in body surface characteristics (Chapter 5.1) and base designs (Chapter 5.2), an image of the production of these seal amulets can be seen. A close examination of the scarabs, cowroids, and scaraboids resulted in the recreation of the production process of the seal amulets from the raw material procurement, to the choice of surface features and base designs, to the carving or moulding, the glazing, and then to the eventual usage. This narrative of the seal amulet's manufacture can then in turn be used to answer research questions about the organisation of workshops, the cultural and societal design influences, and how the seal amulets of the early Eighteenth Dynasty relate to those made before and after this period.

This study set out to answer a variety of research questions regarding early Eighteenth Dynasty seal amulets and their place in the wider ancient Egyptian society and beyond. The primary aims of the present study were to answer the following questions:

1. How were the seal amulets of the early Eighteenth Dynasty made?

Glazed steatite (soapstone) was the most popular material for seal amulets in both the early Eighteenth Dynasty (as reflected in the study with 80% of the corpus seal amulets made of the material) and throughout the history of seal amulet production (Keel 1995: 136). The glaze covering the soapstone was made in the same manner of the second most popular material for seal amulets: faience (13% of the dataset). They both required easy to procure ingredients, such as silica, lime, and alkali flux, and small amounts of copper to produce the vibrant blue hue of both materials (see Chapter 4 for a full explanation of the production of glazed steatite and faience seal amulets). Both of these materials allowed seal amulets to be produced with relative ease (although the quality and detail depended on the craftsperson) and could thus be produced en-masse.

Workshops for both glazed steatite and faience seal amulets are visible in the archaeological record as both 'typological' and 'material' workshops. The 'typological' workshops (as described in Chapter 6.2 and 6.3.1) can be seen in the shared characteristics of seal amulets made of glazed steatite or faience, such as the 'Hatshepsut Workshop' and the 'el-Khokha Faience Workshop', respectively (see Chapter 6.2.1 and below). The evidence for 'material' workshops of these materials (i.e. unfinished steatite scarabs and clay seal amulet moulds) have been found at a number of sites throughout the history of seal amulet manufacture (see Chapter 6.3.2); however, no evidence is known to be securely dated to Egypt in the early Eighteenth Dynasty.

Seal amulets made of semi-precious or other hard stone were less common as the material was often more costly and more difficult to carve. Hard stone seal amulets were frequently carved with minimal detail, likely due to the amuletic properties of the stone itself (rendering the amuletic base designs less important) coupled with the difficulty in carving. While a 'typological' workshop has been identified for cornelian and red jasper scarabs (see Chapter 6.2.2.1 and below), the 'material' workshop evidence is more difficult to detect. It is possible that the hard stone seal amulets were sometimes produced in the same workshops as those making the glazed material seal amulets. This could parallel workshop M50.14-.16 at Amarna where chalcedony amulets were made alongside glass and faience beads and amulets, including a faience scarab (Hodgkinson 2015: 282; see Chapter 6.3.2).

2. What type of seal amulets were created and used in the early Eighteenth Dynasty?

The most popular form of seal amulet in the early Eighteenth Dynasty were those carved to resemble scarab beetles (78% of the dataset; Chapter 5.1.1). Seal amulets carved in the shape of the cowrie shell were the second most popular variety (13%; Chapter 5.1.2) and seal amulets carved with a variety of different types of backs (collectively termed 'scaraboids') comprise 6% of the dataset (Chapter 5.1.3) with plaques as the final 3% (Chapter 5.1.4). The most popular forms of scaraboids include those carved to resemble animals, such as frogs, birds, and cats (Chapter 5.1.3.2 and 5.1.3.3), amulets, such as the *wedjat* eye (Chapter 5.1.3.1), or simply schematic designs (Chapter 5.1.3.4).

It is possible that any of these seal amulets were chosen to be used as administrative seals as past research has determined that this was often a random selection after the Middle Kingdom; however, seal amulets were only rarely used for administrative purposes during the Eighteenth Dynasty (Ben-Tor 2007: 3; see Chapter 1.2 and 2.2.2). Furthermore, the seal amulets in the corpus were ultimately used for their amuletic purposes, as they were all discovered in burials or in votive deposits (see Chapter 3.2 for a discussion of the archaeological contexts).

3. Where was each type of seal amulet produced?

Based on the early Eighteenth Dynasty evidence in the study, three distinct seal amulet workshops from different regions and/or period were identified. The earliest of the three was the 'el-Khokha Faience Workshop' that was based in Thebes, likely during the reign of Thutmose I. The seal amulets from this workshop were made of faience and all bear the A4 head, 'Shesha' back, and d5 legs and their bases depict amuletic and royal motifs (see Chapters 5.1.1 and 6.2.1.2). Six examples from this workshop were found in the Tomb of Neferkhawet at el-Khokha, Thebes (**284**-**289**) and at least three

seal amulets from this workshop can be seen in other contexts: one in the Tomb of Hatnefer and Ramose (**240**) and two at Gebel el-Zeit (**688**, **734**) (figs 6.5 and 8.1).

Figure 8.1: Scarab **288** from the Tomb of Neferkhawet, a typical example from the el-Khokha Faience Workshop bearing the A4 head, 'Shesha' back, d5 legs, and amuletic (3A3) base design motif (see fig. 6.5 for further examples; MMA 35.3.84).

Also located in Thebes was the 'Hatshepsut Workshop' that mass-produced glazed steatite seal amulets (predominantly scarabs) frequently carved with the name and titles of Queen Hatshepsut. These scarabs were made with lined backs, lunate heads (most commonly A3 or A5), and d6 legs (see Chapters 5.2.3.5 and 6.2.1.1; figs 6.3 and 8.2). The clear majority of these seal amulets (at least 200 examples) were found in the foundation deposits of the queen's mortuary temple at Deir el-Bahri with only a few known examples found elsewhere in Thebes, and an interesting example at the Lower Nubian site of Tombos (Smith and Buzon 2017: 622; see Chapter 6.2.1.1).

Figure 8.2: Scarab **080** from the *Djeser-djeseru* foundation deposits, a typical example from the Hatshepsut Workshop bearing the A5 head, type II lined back, d6 legs, and name and title of Hatshepsut (11A) base design motif (see fig. 6.3 for further examples; MMA 27.3.243).

The third workshop of the early Eighteenth Dynasty was the 'Cornelian/Red Jasper Workshop' that operated in the Fayum, or possibly Memphite, region (Chapter 6.2.2.1). This workshop produced scarabs made of either cornelian or red jasper that were carved bearing lunate (A) heads, lined backs, and smooth profiles (the legs were not depicted). The most distinctive feature, other than the strict use of red semi-precious stone, was the simple line motif carved upon its base. This linear design sometimes was an 'X', other times a six-pointed star, and in other instances, diagonal lines (Chapter 5.2.2.4; figs 5.42 and 8.3). These scarabs were found throughout Egypt, the Levant, and even in the Aegean but have been proven to first be created in the Fayum region during the early Eighteenth

Dynasty, possibly as early as the reign of Amenhotep I due to the inclusion in Tomb 27 at Gurob (Boschloos 2012b; Chapter 3.2.6).

Figure 8.3: Scarab **839** from Tomb 1723 at Sedment, a typical example from the Cornelian/Red Jasper Workshop bearing the A head, type II lined back, without depicted legs, and bearing the 'X'/Star (1B2) linear base design motif (see fig. 5.42 for further examples; E.34a.1921 © Fitzwilliam Museum).

Furthermore, other seal amulet workshops from other periods and regions outside of Egypt were described in Chapter 6.3.

4. How did a seal amulet workshop function and what did it look like?

The early Eighteenth Dynasty evidence for both 'typological' and 'material' seal amulet workshops in the dataset illustrate a variety of types of seal amulet production. The large-scale, mass-production of the steatite seal amulets of the 'Hatshepsut Workshop' probably saw multiple craftspeople working together to create the objects for the *Djeser-djeseru* foundation deposits. There were likely master craftspeople working alongside apprentices, which would account for the variety in the skill of carving visible on the seal amulets (Chapter 6.3.1).

Alternatively, there is also evidence for more small-scale production of the seal amulets, as seen in some of the evidence for 'material' workshops, like that of M50.14-.16 at Amarna. Furthermore, this 'material' workshop had evidence of the production of multiple types of amulets of different materials, including semi-precious stone, glass, and faience. Therefore, the evidence demonstrates that seal amulets were produced in both royal, large-scale workshops (the Memphis 'material' workshop in Chapter 6.3.2 was also likely a royal steatite seal amulet workshop due to its proximity to the temple and large quantities of unfinished scarabs) but also in smaller, household production, as seen from the 'material' workshop evidence at Amarna (Chapter 6.3.2).

5. Is there continuity in surface characteristics and base designs for the seal amulets of the Second Intermediate Period into the early Eighteenth Dynasty?

There is some continuity in surface characteristics and base designs on seal amulets of the early Eighteenth Dynasty. This can be noticeably seen on the faience scarabs of the 'el-Khokha Faience Workshop', which were produced with the 'Shesha' back popularised by Hyksos and Canaanite made

scarabs of the Second Intermediate Period (Chapters 5.1.1.2.2 and 6.2.1.2). Furthermore, there is some sparing evidence for the continued use of the nonsensical *anra* formula that originated on seal amulets made in the southern Levant during the Second Intermediate Period (Richards 2001: 111; Chapter 5.2.2.5).

However, the evidence from the present study demonstrates that there was mostly a dramatic change, especially from the reign of Hatshepsut onwards, in both the surface characteristics and base motifs. For example, the D heads, 'Shesha' backs, and schematic profiles that were popular on Hyksos and Canaanite scarabs are replaced by A heads, lined backs, and carved, chip-notched legs (Chapter 5.1.1). Furthermore, the Eighteenth Dynasty saw an emphasis on royal and religious motifs, including name of Amun-Re, carved upon the seal amulet bases (Chapter 5.2).

While the preceding queries regarding the production of seal amulets are the focus of the present study, their conclusions also allowed a deeper discussion of the religious and socio-political scene in the Eighteenth Dynasty as reflected by the seal amulets (see Chapter 7). The evidence provided in this study demonstrates that the early Eighteenth Dynasty seal amulets, even in their finest details, mirrored the social, political, and religious climate of the period. The start of the New Kingdom was focused on linking the newly unified Egypt and its base in Thebes with the strength of the early Middle Kingdom Theban society. This is reflected in the seal amulets, especially those from the 'Hatshepsut Workshop' (Chapter 6.2.1.1) with archaisms in the scarab features, such as the lunate head and lined back (see Chapter 7.1.1). This is also seen with a renewed emphasis by Theban workshops on the cult of Amun (whose primary temple was at Karnak in Thebes) and the important amalgamated deity Amun-Re (see Chapters 5.2.2.1 and 7.1.2).

The early Eighteenth Dynasty saw a shift in Egyptian-Levantine relations with the southern Levant no longer holding as much power as it did during the Second Intermediate Period. During the Second Intermediate Period, thousands of Canaanite made seal amulets were discovered throughout the Levant, Egypt, and Nubia (Keel 1995; 1997; 2010a; 2010b; 2013; Richards 2001; Mlinar 2004; Ben-Tor 2007; Boonstra 2014) alongside the scarabs produced by the Hyksos Tell el-Dab'a workshop that were inspired by both Canaanite and traditionally Egyptian motifs (Mlinar 2004). In contrast, during the Eighteenth Dynasty when the Egyptians had conquered and annexed the southern Levant, Palestinian manufacture of scarabs nearly completely died out[264] and instead Egyptian made scarabs and seal amulets were found in Levantine contexts once more (Ben-Tor and Keel 2012). While there is some evidence of lingering inspiration from Canaanite-made seal amulets, such as with the 'Cornelian/Red Jasper Workshop' scarabs from Middle Egypt (see Chapter 6.2.2.1)[265], the base

[264] One notable exception was a small, local workshop operating at Beth Shean during the late Eighteenth Dynasty that is discussed in Chapter 7.1.3.
[265] See also the few examples of the *anra* formula on Eighteenth Dynasty scarabs (Chapter 5.2.2.5).

designs of the seal amulets of the early Eighteenth Dynasty are largely focused on Egyptian themes and motifs (Ben-Tor 2015: 140).

8.2. Moving Forward

In order to discover further evidence of seal amulet production in the early Eighteenth Dynasty more groups of scarabs, cowroids, and scaraboids can be added to the typological framework presented in the study following their discovery. This can only be achieved with further excavations of intact tombs and other deposits (such as foundation or votive deposits), or the publication of those recently discovered.

Furthermore, further excavation of known production sites, especially of workshops, can aid in providing more information about seal amulet manufacture during this period (Stevens and Eccleston 2007: 147). At present, the only potential archaeological evidence of scarab manufacture dating to the early Eighteenth Dynasty is the unfinished steatite scarabs from Memphis (Petrie 1909, 11; Keel 1995: 34). Unfortunately, there is no secure date to these unfinished steatite scarabs more specific than the New Kingdom, at an unspecified time before the Temple of Merneptah (Keel 1995: 34; see Chapter 6.3.2).

In contrast, there is already a wealth of seal amulet production data dating to the late Eighteenth Dynasty at Amarna (including, Petrie 1894: 26, 28-29; Kemp and Stevens 2010b: 481-484; Shaw 2012: 142-146; Hodgkinson 2015; see Chapter 6.3.2 for full discussion). By chronologically continuing this examination of body surface characteristics and base designs into the late Eighteenth Dynasty with its contemporary seal amulets, perhaps an Amarna seal amulet workshop with its various scarab and seal amulet types could be reconstructed and an analysis of the distribution of Amarna-made seal amulets could be discussed.

Another potential avenue for future research would be to conduct scientific examinations of the seal amulets themselves. Hodgkinson (2016) has proven that by using X-ray fluorescence (XRF), which is non-destructive, scientific data can be obtained regarding the composition of vitreous materials. While there is still limited data available on its reliable usage on thin glazes, particularly without creating a fresh break, XRF could potentially be used to determine if each seal amulet workshop used slightly different raw materials or in different quantities to form distinct groups of objects. At Beth Shean in the Levant, this has been done with the faience on site and it was determined that the small objects (scarabs, amulets, and beads) were made on site, whereas the larger faience objects (such as vessels) were imported from faience workshops in Egypt, like the ones at Amarna (McGovern *et al*. 1993: 22-24).

8.3 Final Remarks

This study will aid in future research of seal amulets and their production. The workshops identified in the study will allow excavators and museum personnel to compare their finds and collections to those presented in the study to potentially assist them in identifying the production place and workshop of the seal amulets. Furthermore, the patterns of characteristics identified in the present study will assist those studying seal amulets of the period to recognise regional and chronological indicators. This study not only worked toward filling the chronological gap in seal amulet studies (as most finish at the end of the Second Intermediate Period or earlier) but will also allow future research to build upon this study and the amended typologies presented within it.

In conclusion, the production, decoration, and usage of seal amulets can often illuminate aspects of ancient Egyptian society. While they were less often used as seals during the New Kingdom, early Eighteenth Dynasty scarabs, cowroids, and scaraboids can shed light on trends in the social, political, and technological histories of Egypt.

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Appendix A:
SITE/CONTEXT CONSIDERATION AND SELECTION

Site Consulted for Study	Comments on Site	Contexts within Site	Comments on Contexts
Abydos	• Early Eighteenth Dynasty Material	Ahmose and Tetisheri Complex	• Material likely relevant to study but still in process of publication and inaccessible
Amarna	• Site post-dates study (late Eighteenth Dynasty) • Would be an interesting avenue for future research (due to presence of material seal amulet workshops)	Not considered as site was excluded due to date	
Deir el-Medina	• Undisturbed tomb of the Eighteenth Dynasty	Tomb of Kha and Merit (TT8)	• Post-dates study (Thutmose IV-Amenhotep III) • Inadequately published
Djeser-djeseru foundation deposits	• Well published assemblages in the foundation deposits (Hayes 1959; Ben-Tor 2015)	Foundation Deposit 7 (G)	• Large assemblage of seal amulets (154), securely dated to the early Eighteenth Dynasty • Accessible for study via www.metmuseum.org
		Foundation Deposit 8 (H)	• Large assemblage of seal amulets (9), securely dated to the early Eighteenth Dynasty • Accessible for study via www.metmuseum.org
		Foundation Deposit 9 (I)	• Large assemblage of seal amulets (71), securely dated to the early Eighteenth Dynasty • Accessible for study via www.metmuseum.org
Dra Abu el-Naga	• Some interesting early Eighteenth Dynasty tombs; however, largely plundered in antiquity • Possible avenue of future research, especially due to recent discoveries	Not considered as site was excluded due to lack of undisturbed tombs	
El-Khokha cemetery	• Presence of undisturbed tombs (Smith 1992)	**Tomb of Neferkhawet and Rennefer**	• Secure assemblage of 20 seal amulets dating to the early Eighteenth Dynasty • Accessible for study via www.metmuseum.org

		Tomb CC 37	• Secure assemblage of 32 seal amulets dating from the end of the Seventeenth Dynasty to the early Eighteenth providing a valuable bridge from earlier studies • Accessible for study via www.metmuseum.org
		Tomb CC 41	• Secure assemblage of 34 seal amulets (total) and date from the end of the Seventeenth Dynasty to the early Eighteenth providing a valuable bridge from earlier studies • Accessible for study via www.metmuseum.org
Gebel el-Zeit	• Well published (Régen and Soukiassian 2008) large assemblage of seal amulets, dated from the late Second Intermediate Period to the mid-Eighteenth Dynasty (majority date to early Eighteenth Dynasty) • Recommended by Daphna Ben-Tor	**Site 1 Sanctuary**	• Large assemblage of 418 seal amulets • Acted as an interesting comparison for the Nile Valley sites (see Ch. 3.2.7.2)
		Site 2	• Only one seal amulet • Pre-dates study (Middle Kingdom)
Gurob	• Tomb assemblages depicted in plates of Brunton and Engelbach (1927)	**Tomb 26**	• Securely dated to the beginning of the Eighteenth Dynasty • Secure assemblage of 14 seal amulets available for study at the Brussels Royal Museums of Art and History
		Tomb 27	• Securely dated to the beginning of the Eighteenth Dynasty • Secure assemblage of 21 seal amulets available for study at the Hunterian Museum, Glasgow
		Tomb 75	• Securely dated to the beginning of the Eighteenth Dynasty • Secure assemblage of up to 20 seal amulets • Ipswich Museum only has small selection of the seal amulets
		Other Gurob tombs	• Many disturbed • Seal amulet assemblages too small (less than 8)

Lahun	• Tomb of Maket well published and securely dated to early Eighteenth Dynasty • Rest of site predominantly Middle Kingdom	**Tomb of Maket**	• Undisturbed tomb dating to the early Eighteenth Dynasty • Well published by Olga Tufnell (1984; and Hankey 1973) • Assemblage of 40 seal amulets available for study at the Ashmolean Museum, Oxford
Sedment	• Cemeteries dating to the New Kingdom (with early Eighteenth Dynasty tombs) • Well published by Henning Franzmeier (2017)	**Tomb 1723**	• Lightly disturbed tomb, assemblage remained intact • Assemblage of 14 seal amulets available for study at the Fitzwilliam Museum, Cambridge
		Tomb 1728	• Lightly disturbed tomb, assemblage remained intact • Assemblage of 12 seal amulets available for study via www.penn.museum
		Other Sedment tombs	• Tombs all heavily disturbed/seal amulet assemblages too small (less than 8)
Sheikh 'Abd el-Qurna	• Presence of undisturbed tombs (Smith 1992)	**Tomb of Hatnefer and Ramose**	• Secure assemblage of 37 seal amulets dating to the early Eighteenth Dynasty • Relatively well published by Lansing and Hayes (1937) • Accessible for study via www.metmuseum.org
		Tomb of Hatiay, Hentut'u, Siamun, and Mahy	• Undisturbed but post-dates study (Amenhotep III-Akhenaten)
Tell el-Dab'a	• Scarabs of site well studied; Second Intermediate Period scarabs published in article (Mlinar 2004)	Ezbet Helmi Quarter (early Eighteenth Dynasty)	• Early Eighteenth Dynasty scarabs have not been fully published, are not accessible for study
Valley of the Kings	• Presence of undisturbed tomb of the Eighteenth Dynasty (Smith 1992)	Tomb of Yuya and Thuya (KV 46)	• Largely undisturbed • Post-dates study (late Eighteenth Dynasty) • Not well published nor easily accessible (Egyptian Museum Cairo)

*Sites/contexts excluded marked in red, sites/contexts chosen in **bold***

Selection process was two staged:

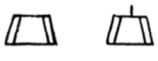
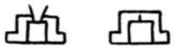
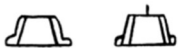
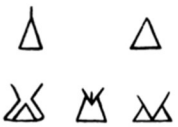
1. Overall sites considered for selection (column 1) based upon the following criteria:
    a. Must date to the early Eighteenth Dynasty (up to and including the early years of the sole reign of Thutmose III)
    b. Well-published (in order to determine that chronological period is verified)
2. Individual contexts within sites considered for selection (column 2) based upon the following criteria:
    a. Context must be undisturbed/secure

b. Must have an assemblage of eight seal amulets or more
c. Seal amulets must be accessible for study (in person or via high resolution photographs

For further information about the selection process, see Chapter 2.2.2. For further information about the sites chosen, see Chapter 3.2.

Appendix B:
SCARAB AND COWROID BODY FEATURES

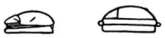
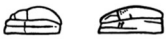
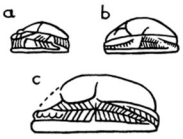
1. SCARAB HEADS (after Tufnell 1984: 32)

	A	B	C	D
1				
2				
3				
4				
5				
6				
7				
8				
9				

2. SCARAB BACKS (after Tufnell 1984: 35)

I	II	III	O	H	S	xxx	dec.	vIv
								

3. SCARAB LEGS (after Tufnell 1984: 37)

d1		**d9**		**e1**		**e9**	
d2		**d10**		**e2**		**e10**	
d3	free	**d11**		**e3**		**e11**	
d4		**d12**		**e4**			
d5		**d13**		**e5**			
d6		**d14**		**e6**			
d7		**d15**		**e7**			
d8				**e8**			

4. COWROID BACKS (Types according to Keel 1995: 78)

Type I: Smooth back

Type II: Back and base divided by line

Type III: Back and base divided by braided or notched cord

Type IV: Decorated back

Appendix C:
BASE DESIGN CLASSES

Tufnell's Design Class (1984, 29-31), Keel's additions (1995, 161-162), author's additions

1 Linear Patterns
- 1A maze
- 1B geometric
  - 1B1 Miscellaneous geometric
  - 1B2 'X' or Star
- 1E floral motifs
  - 1E1 one stem
  - 1E2 two stems
  - 1E3 three stems
- 1F 'Hyksos-sides'

2 Scrolls and Spirals
- 2A Z-, S-, C-scrolls
- 2B round interlocking spirals with ends
  - 2B1 round interlocking spirals with ends
  - 2B2 round interlocking spirals, unending

3 Egyptian Signs and Symbols
- 3A monograms and varia
  - 3A1 Sign of Union, *sm3*
  - 3A2 *nb.ty* with plants
  - 3A3 varia
  - 3A4 Horus hawk with *ntr* and other signs
  - 3A5 *nb t3.wy* Lord of the Two Lands
- 3B symmetric patterns
  - 3B1 cobras
    - 3B1a addorsed
    - 3B1b addorsed and linked
    - 3B1c confronted
    - 3B1d addorsed, linked and crowned
    - 3B1e confronted and crowned
  - 3B2 king of Upper and Lower Egypt, *nsw.t bjtj*
  - 3B3 red crowns
    - 3B3a addorsed on nb
    - 3B3b addorsed
    - 3B3c confronted
    - 3B3d addorsed, "L-shaped"
    - 3B3e *tête-bêche*
  - 3B4 Horus eyes (*wd3t)*
  - 3B5 sedge plant (*swt*)
  - 3B6 GOLD-sign (*nbw*) in longitudinal setting
  - 3B7 forepart of lion (*h3t*)
- 3C formulae
  - 3C1 *anra* formula
  - 3C2 *rdj R'* formula[i]
- 3D cartouches
  - 3D1 simple oblong
  - 3D2 oblong with single base-line
  - 3D3 base-line joined by lines
  - 3D4 triangular base
  - 3D5 neck between oblong and base
  - 3D6 varia
- 3E panels
  - 3E1 three or more signs in margins
  - 3E2 two sings in margins
  - 3E3 double *ntr* signs, one reserved, in margins
  - 3E4 cross-bars in margins
  - 3E5 'shrine'
  - 3E6 varia

4 Concentric Circles
- 4A with lines
  - 4A1 single ring
  - 4A2 double ring
- 4B linked
  - 4B1 single ring
  - 4B2 double ring
  - 4B3 triple ring
- 4C small
  - 4C1 single ring
- 4D border
  - 4D1 single ring
  - 4D2 double ring
  - 4D3 triple ring
- 4E varia
  - 4E1 single ring
  - 4E2 double ring
  - 4E3 triple ring

5 Cross Patterns

6 Coiled and 'woven' Patterns
- 6A single-line thread
- 6B convoluted
  - 6B1 coils
  - 6B2 knot-like
    - 6B2a central 'x' cross
    - 6B2b central bar
  - 6B3 varia
- 6C encompassed
  - 6C1 central 'x' cross
  - 6C2 central twist
  - 6C3 central cable

7 Scroll Borders
- 7A continuous
  - 7A1 round
    - 7A1a hooked
    - 7A1b joined
  - 7A2 oblong
    - 7A2a hooked
    - 7A2b joined
- 7B paired scrolls, top loop
  - 7B1 one pair

7B1 (i) round
7B1 (i) a hooked
7B1 (i) b joined
7B1 (ii) oblong
7B1 (ii) a hooked
7B1 (ii) b joined
7B2 two pairs
7B2 (i)
7B2 (i) a hooked
7B2 (i) a joined
7B2 (ii)
7B2 (ii) a hooked
7B2 (ii) b joined
7B3 three pairs
7B3 (i) round
7B3 (i) a hooked
7B3 (i) b joined
7B3 (ii) oblong
7B3 (ii) a hooked
7B3 (ii) b joined
7B4 four or more pairs
7B4 (i) round
7B4 (i) a hooked
7B4 (i) b joined
7B4 (ii) oblong
7B4 (ii) a hooked
7B4 (ii) b joined
7C paired scrolls, open at top and/or base
7C1 one pair
7C1 (i) round
7C1 (i) a hooked
7C1 (i) b joined
7C1 (ii) oblong
7C1 (ii) a hooked
7C1 (ii) b joined
7C2 two pairs
7C2 (i)
7C2 (i) a hooked
7C2 (i) a joined
7C2 (ii)
7C2 (ii) a hooked
7C2 (ii) b joined
7C3 three pairs
7C3 (i) round
7C3 (i) a hooked
7C3 (i) b joined
7C3 (ii) oblong
7C3 (ii) a hooked
7C3 (ii) b joined
7C4 four or more pairs
7C4 (i) round
7C4 (i) a hooked
7C4 (i) b joined
7C4 (ii) oblong
7C4 (ii) a hooked
7C4 (ii) b joined

8 Rope Borders
8A twisted strand
8AA double twisted strand
8B barred strand
8BB double barred strand
8C full cable

9 Animals and Heraldic Beasts
9A scarab beetles[ii]
9B antelopes
9C cobras confronted
9C1 with signs
9C2 with figures
9C3 with hawk(s)
9C4 with long tail
9C5 with animals or heraldic beasts
9C6 single uraeus
9C7 series of uraei
9D crocodiles
9D1 crocodile
9D1a crocodile and admirer
9D1b crocodile and falcon-headed figure
9D1c crocodile as incarnation of the flood
9D2 two crocodiles in axial compositions
9E lions
9E1 lion
9E2 lion over prey
9E2a lion over man
9E2b lion over caprid
9E2c lion over crocodile
9E3 lion as object of intellectual activity
9F heraldic beasts
9F1 human-headed sphinx
9F1a without wings
9F1b with wings
9F2 falcon-headed sphinx
9F3 griffin
9F4 ram-headed sphinx
9G equids and other large mammals
9G1 equids
9G2 bovine
9G3 hippo
9G4 dogs
9H hawks/falcons
9H1 falcon
9H2 falcon in ordered pairs
9H3 falcon with uraeus in claws and flail behind
9H4 falcon in flight
9I vulture
9J *bulti* fish
9K scorpion

10 Human and Mythical Figures[iii]

- 10A standing
  - 10A1 human-headed
    - 10A1a holding palm
    - 10A1b holding flower
    - 10A1c holding cobra
    - 10A1d wearing toga
    - 10A1e holding weapons
    - 10A1f empty-handed
    - 10A1g weather god and Reshef
    - 10A1h nude goddess
    - 10A1i 'Hathor' symbol[iv]
    - 10A1j further early anthropomorphic gods (Ptah, Ḥeḥ, Neith)
    - 10A1k Amun
  - 10A2 mythical-headed
    - 10A2a holding palm
    - 10A2b holding flower
    - 10A2c holding cobra
    - 10A2d wearing toga
    - 10A2e holding weapons
    - 10A2f empty-handed
- 10B two or more figures, standing and/or kneeling
  - 10B1 composition of two figures
    - 10B1a two equivalent figures
    - 10B1b two figures, one larger than other
  - 10B2 with tree
    - 10B2a two human figures flank a tree
    - 10B2b two falcon-headed figures flank a tree
    - 10B2c two figures flank a tree and a third element
  - 10B3 more than three figures
- 10C kneeling
  - 10C1 human-headed
    - 10C1a holding palm
    - 10C1b holding flower
    - 10C1c holding cobra
  - 10C2 mythical-headed
    - 10C2a holding palm
    - 10C2b holding flower
    - 10C2c holding cobra
    - 10C2d empty-handed
- 10D throned

11 Names and Titles

- 11A royal names
- 11B private names and titles
- 11C names of gods
  - 11C1 Amun/Amun-Re (incl. cryptography)[v]
- 11D religious formulas and wish

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[i] Tufnell's 3C class was created to cover *anra* scarabs. Keel amended the class to include both *anra* scarabs and those engraved with *rdj R'*. The author made two specific subclasses for these motifs.

[ii] Design Class 9A is listed as 'not used' by Tufnell. Keel designated it for the motif of the scarab beetle, a motif which Tufnell grouped with others in 1D (animals and insects) but is sufficiently popular to deserve its own subcategory. Furthermore, the present author removed classes 1C and 1E as she deemed them repetitive in light of classes 9 and 10.

[iii] Keel cut a number of subcategories from Tufnell's original Design Class 10 and added others. His amendments are largely reflected in the present list.

[iv] 10A1h and 10A1i were originally Tufnell's 10D1 and 10D2, respectively but were added to Keel's list of 10A1 features.

[v] Keel added Design Class 11C to incorporate all names of gods, including Amun/Amun-Re and cryptography of his name. Due to the vast quantity of seal amulets inscribed with this deity's name in comparison to others, the author deemed it important to differentiate between seal amulets evoking Amun/Amun-Re versus other deities. A number of subcategories for base designs with the name of Amun or Amun-Re are noted in Chapter 5.2.2.1.